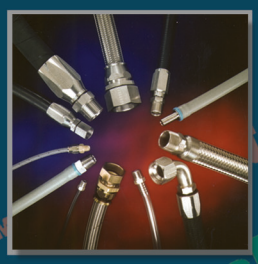
$12.00

SSP FITTINGS CORP.

SSP Product Catalog
and Design Handbook



Engineered Fluid Connecting Solutions
for Tubing, Hose and Pipe

About SSP Fittings Corp

1926 SSP Fittings Corp. is founded in Cleveland, Ohio, U.S.A. SSP begins as a contract manufacturer of screw machine products in brass and carbon steel to general industry.

1940s World War II shifts the company's focus to production of fittings for tubing, pipe, and hose. Following the war, SSP's customers are able to satisfy their own requirements without relying on outside companies for production. SSP contracts.

1970s New Focus. By the early 1970s, SSP embarks on a market and manufacturing driven strategy of producing quality fittings from difficult-to-machine alloys. The performance requirements of customers utilizing these materials in industries as diverse as marine, defense, offshore oil, and aerospace, drive SSP to establish both conformance quality standards, and service levels, which are significantly ahead of general industry at the time.

1980s The "Works". Things are really happening for SSP. The company establishes a product line and distribution channel for hydraulic fittings, which require significant investments in a new, state-of-the-art facility south of Cleveland. SSP builds a 165,000 sq. ft. facility to house our vertically-integrated "Works," including, by now, tool and die design and production, custom closed-die forging, machining, finishing operations, assembly and test. With over 200 work centers, SSP's Twinsburg "Works" is one of the largest single-site facilities in the entire industry.

1990s Market Expansion. SSP's distribution network for high performance hydraulic fittings expands into some select global markets and new standards of performance are required of US-based distributors to meet the growing competitive challenge. Investments in design engineering usher in the introduction of SSP Instrumentation tube and pipe fittings for instrumentation and process markets. Finally, as has now come to be expected, SSP is one of the first companies in our market to earn ISO 9001:2000 certification.

2000 The New Force. SSP endorses select distributorships as Affiliated Distributors, signifying these companies' commitment to providing comprehensive technical support on SSP Fittings and other complementary fluid power products. Significant investments in information technology and modern production equipment prepare the company to leverage its reputation for product availability and speed, with the sizable market opportunities targeted through decades of deliberate investment in the sound fundamentals of quality, service, performance, and value.

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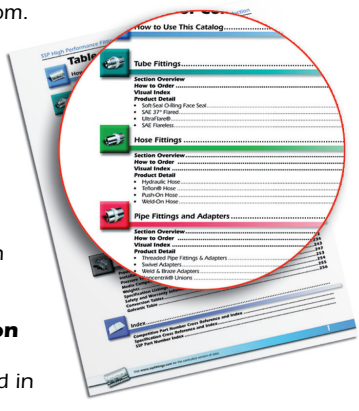
Table of Contents

How to Use this Catalog

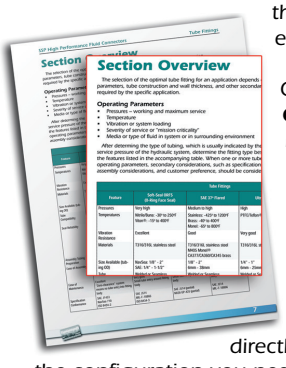
When SSP decided to revise, update, and expand our catalog, we knew we could make it more useful. To find out just how to accomplish this, we contacted engineers, users, and distributors throughout the United States. They took the time to let us know which features and content would make their lives easier.

This catalog is the result of learning from industry professionals who were kind enough to share their thoughts in surveys, phone conversations, and face-to-face discussions. Thanks to them, we know you'll find this new catalog both easy to use and informative. But it doesn't stop there! If you have ideas that will help us as we continue to refine this catalog, please let us know! We want to listen, learn, and improve with the help of those who use our products. Drop us a line or visit our web site at www.sspfittings.com.

General Navigation:

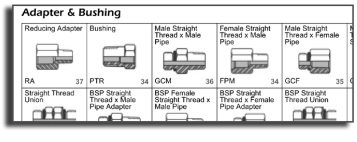


On the "**Table of Contents**" page you'll find a top-level outline of catalog sections. Each section is assigned a color. Tube Fittings are blue; Hose Fittings are green; Pipe Fittings are red. To navigate to the Hose Fittings section, for instance, you can either turn to the numbered page, or you can simply flip to the section that has the matching green image on each page edge.

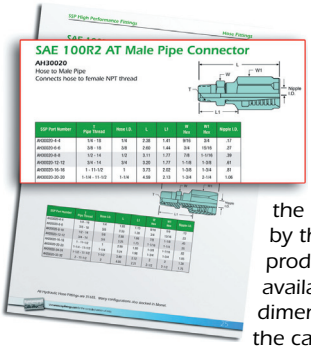


Once there, you can read the "**Section Overview**." SSP presents general information on all products contained in the section in an objective way, documenting performance differences between products in an easy-to-reference table.

Visual Index



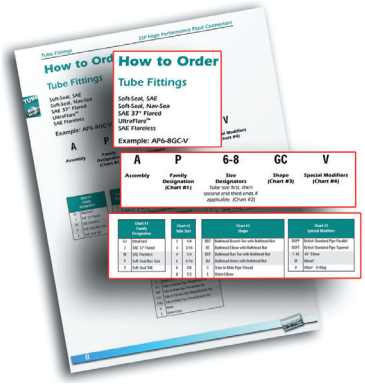
If you already know the specific type of Hose, Tube, or Pipe fitting you need, you can go directly to the "**Visual Index**" to find the configuration you need. Grouped by their shape or purpose (male connector, tube union, cap & plug etc.), each part has a thumbnail drawing, description, base part number, and page number that directs you to the Product Detail for that part.



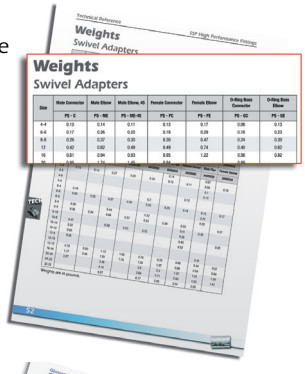
"**Product Detail**" pages follow. For each part you will see a dimensioned drawing and a table. The drawings have call-outs indicating various dimensional attributes for the part. Callouts are defined by the table on the right. The product detail table contains available part numbers, dimensions corresponding to the callouts, materials, and pressure ratings.

Drawing Callout Key	
Callout	**Description**
A	Turn Length (of Tube O.D.)
B	Socket Depth
C	Pipe Length
D	Through Hole (Drill Diameter)
E	Bulkhead Pilot Length
F	Face Diameter
H	Hex Diameter
I	Insertion Depth
L	Length of Fitting
LL	Length after Installation
PT	Pipe Thread
S	Shoulder
T	Thread
W	Wrench Flat OR Hex (Socket)
X	OD Dimension of socket (turn) End - Turn Diameter
Z	Bulkhead Pilot Diameter

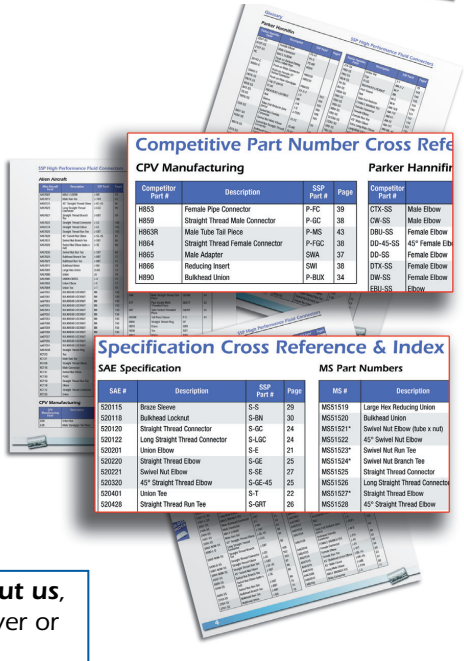
The "**How to Order**" pages in each section show you how to create the order number for the parts you need. Most SSP part numbers are acronyms for easy recall (such as "J" for JIC, now known as SAE 37° Flared, or "ME" for male elbow), or the part numbers follow a consistent pattern. The How To Order tables give you the key to unlock the part numbering system.



We have two special sections in the back of the design handbook - our "**Technical Reference**" section and the Index section. In Technical Reference you'll find all the information you need about the use and installation of our products along with common reference material for fluid piping design. We've included Product Comparative Tables, Working Pressure Tables, Pressure Loss Tables, Temperature De-rating Factors, Tube-Hose-Pipe equivalents, Media Compatibility, Specification Listings and much more.



The "**Index**" section of the catalog contains a Competitive Part Number Cross Reference, a Specification Cross Reference, and an SSP Part Number index. This way, you can find the right SSP part, and where it's located in the catalog, no matter what information you have.



If you would like to know more about us, please call the number on the back cover or visit **www.sspfittings.com**.

We'd love to hear from you.

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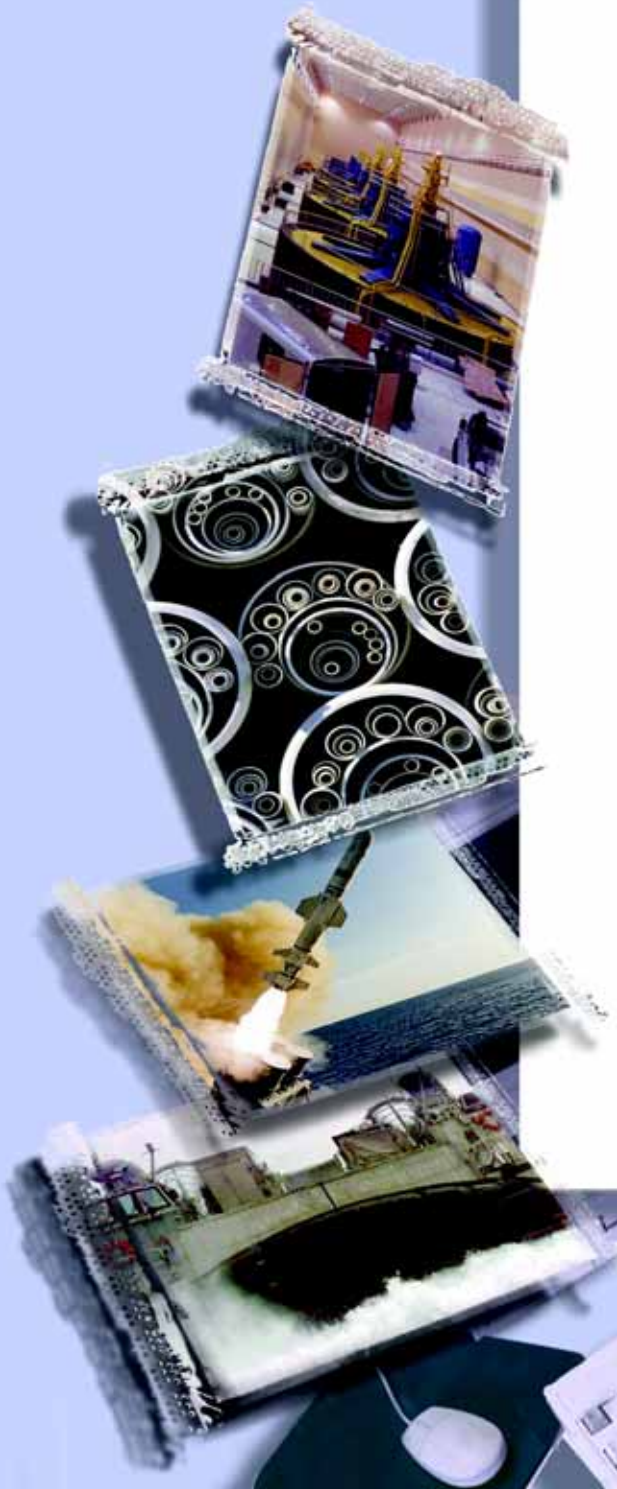
Tube Fittings



Section Overview

Tube Fittings

The selection of the optimal tube fitting for an application depends on the system operating parameters, tube construction and wall thickness, and other secondary considerations recommended or required by the specific application.

Operating Parameters

- Pressures – working and maximum service
- Temperature
- Vibration or system loading
- Severity of service or "mission criticality"
- Media or type of fluid in system or in surrounding environment

After determining the type of tubing, which is usually indicated by the working pressure & maximum service pressure of the hydraulic system, determining the fitting type best suited for the system based on the features listed in the accompanying table. When one or more tube fittings satisfy the system operating parameters, secondary considerations, such as specification conformance, existing practice, assembly considerations, and customer preference, should be considered.

Tube Fittings				
Feature	**Soft-Seal ORFS (O-Ring Face Seal)**	**SAE 37° Flared**	**UltraFlare**	**SAE Flareless**
Pressures	Very high	Medium to high	High	Medium
Temperatures	Nitrile/Buna: -30° to 250°F Viton: -15° to 400°F	Stainless: -425° to 1200°F Brass: -40° to 400°F Monel: -65° to 800°F	PTFE/Teflon: -100° to 450°F	Stainless: -425° to 1200°F Monel: -65° to 800°F
Vibration Resistance	Excellent	Good	Very good	Good
Materials	T316/316L stainless steel	T316/316L stainless steel M405 Monel CA377/CA360/CA345 brass	T316/316L stainless steel	T316/316L stainless steel (17-4 ph stainless for ferrule) M405 Monel
Size Available (tubing OD)	NavSea: 1/8" - 2" SAE: 1/4" - 1-1/2"	1/8" - 2" 6 mm - 38 mm	1/4" - 1" 6 mm - 25 mm	1/8" - 2"
Tube Compatibility	Welded or Seamless Inch or metric All thickness	Welded or Seamless Inch or metric Thin to medium thickness	Welded or Seamless Inch or metric Thin to medium thickness	Seamless only Inch only Medium to heavy thickness
Seal Reliability	Excellent Elastomeric seal High tolerance to minor surface imperfections and damage High tolerance to assembly variation	Good Metal-to-metal seal Low tolerance to minor surface imperfections and damage Low tolerance to assembly variation	Very good PTFE seal reinforces metal-to-metal seal Medium tolerance to surface imperfections Medium tolerance to assembly variation like under-flaring or torquing	Very good Metal to metal seal Sealing surfaces are less prone to damage Low tolerance to assembly variation
Assembly				
Tubing Preparation	Sleeve brazing or tube flanging	Tube flaring	Tube flaring	Ferrule presetting
Ease of Assembly	Excellent Minimal skill required once tailpiece/sleeve is affixed to tubing	Good Requires skill and trained personnel	Very Good Requires general knowledge of tube flaring & assembly, but forgiving of assembly variation	Good Requires skill and trained personnel
Ease of Maintenance	Excellent "Zero-clearance" system means no tube entry into fitting body	Very good Small tube entry around fitting body	Very good Small tube entry around fitting body	Good Large tube entry into fitting body
Specification Conformance	SAE J1453 NavSea 710 ISO 8434-2	SAE J514 MIL-F-18866 ISO 8434-3	SAE J514 (partial) NASA GP-425 (partial)	SAE J514 MIL-F-18866

Soft-Seal, O-Ring Face Seal (ORFS)

Appearance

Soft-Seal tube & pipe fittings seal fluids and gases at very high pressures and vacuum. Each features a high durometer o-ring held in a precision-machined groove in the fitting body. This elastomeric seal prevents fluids and gases from leaking.

The Soft-Seal fitting assembly consists of four parts: threaded fitting body with o-ring groove, o-ring, nut, and sleeve or tailpiece. Other o-rings have been tested and are available for special applications.

The fitting assembly seals when the bottom of the sleeve or tailpiece, which has been fixed to the tubing, compresses the o-ring in the face of the threaded fitting body as the fitting nut is threaded onto the external threads on the fitting body. The threading process draws the sleeve into full contact with the face of the fitting.

Sleeves or tailpieces can be secured to the tubing either by brazing, welding, or mechanically flanging the tubing.

Type 316 stainless steel is the standard material on all bodies and nuts. Type 316L (low carbon) is used for sleeves/tailpieces. Buna-N is the standard o-ring material for SAE and NavSea.

Suggested Applications

The Soft-Seal tube & pipe fitting is a very versatile fitting connector because it works exceptionally well on both fluids and gases. After securing the sleeve onto the tube or pipe, it is then extremely easy to install. The fitting is also a "zero clearance" system, meaning you don't need to spring or pull the tubing to seat the fitting, or purge the system. This tube fitting can be disassembled and reassembled many times. Simply replace the o-ring and tighten to recommended torque. The elastomer soft-seal conforms well to irregularities in the fitting face or sleeve. So, while proper technique and handling should be observed during assembly, the tube fitting is forgiving of assembly variation.

Soft-Seal tube & pipe fittings are highly recommended on high vibration systems because the soft-seal absorbs shock better than metal-to-metal sealing systems.

While the SAE Soft-Seal was originated for use in off-road construction machinery, it is gaining popularity in other transportation-related applications such as alternative fuel systems (CNG/LPG) for vehicles. It is endorsed by ISO Technical Committee 131 for all new hydraulic system design.

The NavSea Soft-Seal design is widely used in Naval and commercial ship building and repair. Other applications include test laboratories.

Characteristic	Soft-Seal (ORFS) Tube Fitting Performance
Pressures	Very high to 9200 psi
Temperature	Nitrile/Buna: -30° to 250°F Viton: -15° to 400°F
Vibration Resistance	Excellent
Materials Available	T316/316L stainless steel; M405 Monel
Size Available (nominal)	1/8" - 2"
Tube & Pipe Compatibility	Welded or Seamless All thickness/schedules
Seal Reliability	Excellent Elastomeric seal High tolerance to minor surface imperfections and damage High tolerance to assembly variation

SSP Design Standard

Recommended Torque Valves for Soft-Seal NavSea Fittings

Dash Size	Tube O.D.	Torque in Inch-Pounds
-4	1/4	20-40
-6	3/8	25-50
-8	1/2	40-75
-10	5/8	60-120
-12	3/4	110-220
-16	1	180-350
-20	1 1/4	265-530
-24	1 1/2	360-720
-32	2	750-1490

SAE 37° Flared

Appearance

The SAE 37° Flared tube fitting system (aka. "JIC") consists of three components to make a tubing assembly: body, nut, and sleeve.

The SAE flared tube fitting relies on metal-to-metal contact between the finished surface of the fitting nose and the inside diameter of the flared tubing to make a seal. SSP takes great care in the manufaturing process to produce a flared nose surface that far exceeds published specifications. This high finish reduces the likelihood of leakage due to irregularities in the flared tubing.

As the fitting nose and flared tubing are drawn together, they are supported by the fitting sleeve, which distributes the compressing load caused by the nut as it is threaded onto the fitting body during assembly.

SAE flared tube fittings are available for inch and metric tubing. Metric assemblies are constructed with standard inch bodies, and special nuts and sleeves designed for metric tubing.

Stainless steel SAE flared tube fitting are manufactured from Type 316/316L stainless steel. Brass SAE flared tube fittings are manufactured from CA377 forging brass, and CA360 & CA345 machining brass. Monel SAE flared tube fittings are manufactured from the 405 grade of this copper-nickel alloy.

An installed SAE flared tube fitting system is easy to identify. The sleeve protrudes out the back of the nut. This extension provides the tubing with additional support and lessens the longitudinal load on the fitting nose.

Suggested Applications

The SAE flared tube fitting is the most popular configuration of hydraulic fluid connector in North America. While the SAE system is often used for joining tubing in a hydraulic system, it is frequently also used on flexible plumbing systems (hose) as an end adapter for female SAE swivels, which is the most common – and affordable – end connection on hydraulic hose assemblies.

Until recently, the SAE flared tube fitting had a corresponding military specification, MIL-F-18866 which has now been superceded by SAE J514, but many ordinance system designs and designers still favor the SAE fitting out of convention and customer preference.

Characteristic	SAE 37º Flared Tube Fitting Performance
Pressure	Medium to High; to 7,700 psi
Temperature	Stainless: -425° to 1200°F Brass: -40° to 400°F Monel: -65° to 800°F
Vibration Resistance	Good
Materials Available	T316/316L stainless steel M405 Monel CA377/CA360/CA345 brass
Size Available (nominal)	1/8" – 2" 6mm – 38mm
Tube & Pipe Compatibility	Seamless or welded and drawn over a mandrel Inch or metric Thin to medium thickness
Seal Reliability	Good Metal-to-metal seal Low tolerance to minor surface imperfections and damage Low tolerance to assembly variation

UltraFlare®

Appearance

An enhanced version of the standard SAE 37° Flared tube fitting, UltraFlare features a Teflon seal in the flared fitting nose cone. The seal is extruded of virgin Teflon and machined to create an interference fit in the groove, or trepan, in the fitting nose. This trepan is machined parallel to the fitting centerline to eliminate the risk of twisting the Teflon seal out of its seat during assembly. In most other respects, the UltraFlare resembles the SAE flared tube fitting (see "SAE 37° Flared Tube Fittings/ Appearance" for additional details).

Type 316/316L stainless steel is the standard material on all bodies, nuts and sleeves. PTFE/Teflon is the standard seal material.

Suggested Applications

The UltraFlare is an extremely good choice in many cases for both new system design, and replacement of existing SAE flared tube fittings. For new system design, the UltraFlare offers a superior alternative to a standard SAE Flared fitting through its improved resistance to vibration and sealing reliability. The UltraFlare is also more forgiving of assembly irregularities in the shop or field, such as underflared tubing or under-torqued make-ups.

The UltraFlare uses standard SAE nuts & sleeves, and can be assembled following normal procedures and techniques for SAE flared tube fittings. As such, for companies with an investment in tube flaring equipment and training, the UltraFlare represents a superior performing fitting system without the need for new capital equipment or technician training.

In the field, or for system maintenance, UltraFlare tube fittings can be substituted for a standard SAE flared fitting for enhanced protection against leakage due to normal system vibration.

Characteristic	UltraFlare 37° Flared Tube Fitting
Pressures	To 9,600 psi
Temperature	PTFE/Teflon: -100° to 450°F
Vibration Resistance	Very good
Materials Available	T316/316L stainless steel
Size Available (tubing OD)	¼" – 2" 6mm – 25mm
Tube Compatibility	Seamless or welded and drawn over a mandrel Inch or metric Thin to medium thickness
Seal Reliability	Very good PTFE seal reinforces metal-to-metal seal High tolerance to surface imperfections High tolerance to assembly variation like under-flaring or torquing

SAE Flareless

Appearance

The SAE Flareless (aka. “bite type”) tube fitting is a three-piece system (nut, ferrule, and body) that works by forcing the ferrule cutting edge into the tubing wall to create a seal. The resulting spring-action joint offers a leak proof seal and resistance to vibration. Flareless fittings do not require a flaring operation and are used on medium to heavy walled tubing.

Standard material for the fitting body is Type 316 stainless steel for the body and nut, and Carpenter Custom 630 (17Cr - 4Ni) stainless steel for the ferrule. The ferrule is slightly discolored because it has been heat treated to give extra hardness for biting. The ferrule must be harder than the tubing to form the bite that seals the assembly.

The finish on SAE flareless fitting nuts is a dark graphite color due to lubricant coating. The fitting nut has a bonded dry film lubricant which aids in the installation process to reduce torque and prevent galling.

Suggested Applications

The SAE flareless tube fitting is an excellent fitting system for higher vibration hydraulic systems where a user does not wish to flare tubing.

On dynamic hydraulic systems, the SAE flareless tube fitting is recommended over other flareless tube fitting systems, specifically compression, or “instrumentation.” The design of the SAE flareless single biting ferrule holds the key to this superiority. The ferrule bows during assembly and “bites” into the tubing wall. The spring-action joint provides superior shock absorption and holding power. In addition, the bite and other visual cues, allow a user to inspect the assembly prior to system pressurization. With other flareless tube fitting systems, a user must rely on indirect verification of a positive seal through the use of gap gauges or by counting the number of hex flats torqued from a finger-tight position.

Like all metal-to-metal tube fitting systems, the SAE flareless is limited in the number of disassemblies and reassemblies the tubing can withstand as the ferrule bites deeper and deeper into the tubing wall with each reassembly.

SSP strongly discourages the intermixing of components from different manufacturers.

Characteristic	SAE Flareless Tube Fitting Performance
Pressures	Medium to 6,000 psi
Temperature	Stainless: -425° to 1200°F Monel: -65° to 800°F
Vibration Resistance	Good
Materials Available	T316/316L stainless steel (17-4 ph stainless for ferrule) M405 Monel
Size Available (tubing OD)	1/8” – 2”
Tube Compatibility	Seamless only Inch only Medium to heavy thickness
Seal Reliability	Very good Metal to metal seal Sealing surfaces are less prone to damage Low tolerance to assembly variation

How to Order

Tube Fittings

Soft-Seal, SAE
Soft-Seal, Nav-Sea
SAE 37° Flared
UltraFlare®
SAE Flareless

Example: AP6-8GC-V

A	P	6-8	GC	V
Assembly	**Family Designation** (Chart #1)	**Size Designators** Tube size first, then second and third ends if applicable. (Chart #2)	**Shape** (Chart #3)	**Special Modifiers** (Chart #4)

Chart #1 Family Designation	
GJ	UltraFlare
J	SAE 37º Flared
M	SAE Flareless
P	Soft-Seal Nav-Sea
S	Soft-Seal SAE

Chart #2 Tube Size	
2	1/8
3	3/16
4	1/4
5	5/16
6	3/8
8	1/2
10	5/8
12	3/4
14	7/8
16	1
20	1 1/4
24	1 1/2
32	2

Chart #3 Shape	
BBT	Bulkhead Branch Tee with Bulkhead Nut
BE	Bulkhead Elbow with Bulkhead Nut
BRT	Bulkhead Run Tee with Bulkhead Nut
BU	Bulkhead Union with Bulkhead Nut
C	Tube to Male Pipe Thread
E	Union Elbow
FC	Tube to Female Pipe Thread
GBT	SAE Straight Thread Branch Tee
GC	Tube to SAE Straight Thread
GE	Swivel Nut Straight Thread Elbow
GRT	SAE Straight Thread Run Tee
ME	Tube to Male Pipe Thread Elbow
SBT	Female Swivel Branch Tee
SC	Female Swivel Straight
SE	Female Swivel Elbow
SRT	Female Swivel Run Tee
T	Union Tee
TFT	Tube to Female Pipe Thread Run Tee
TMT	Tube to Male Pipe Thread Run Tee
TTF	Tube to Female Pipe Thread Branch Tee
TTM	Tube to Male Pipe Thread Branch Tee
U	Union
X	Union Cross

Chart #4 Special Modifiers	
BSPP	British Standard Pipe Parallel
BSPT	British Standard Pipe Tapered
45	45° Elbow
M	Monel
V	Viton O-Ring
B	Brass

How to Order

Tube Fittings

Soft-Seal, High Pressure Unions

Example: Q501T-4-L

Q	501	T	4	L
Family Designation	**Configuration** (Chart #1)	**Designation** (Chart # 2)	**Size** (Chart #3)	**Material** (Chart #4)

Chart #1 Configuration

500N	Union Nut
501	Pipe Socket
502	Pipe Socket Braze Groove
503	Female Pipe
504	Male Pipe
507	Reducing Insert
509	Male SAE Straight Thread
602	Male Pipe Weld
603	Male Tube Standpipe/Tube Stub
604	Female SAE Straight Thread
408	Tube Socket

Chart #2 Designation

R	Tail Piece
T	Threaded Piece

Chart #3 Size Designation

Size	Tube O.D. or Thread Size	Pipe Size
0	1/4	1/8
1	3/8	1/4
2	1/2	3/8
3	3/4	1/2
4	1	3/4
5	1 1/4	1
6	1 1/2	1 1/4
7	2	1 1/2
8	-	2

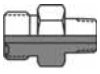
Chart #4 Material

L	T316L
M	Monel

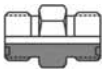
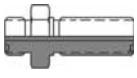
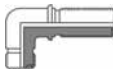
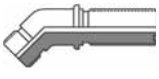
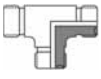
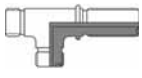
Visual Index

Soft-Seal, SAE

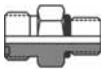
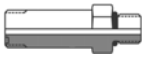
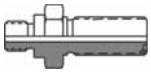
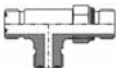
Tube to Male Pipe

Male Pipe Connector  S-C 20	Male Elbow  S-ME 20

Tube to Tube Union

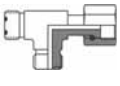
Union  S-U 21	Bulkhead Union  S-BUX 21	Union Elbow  S-E 21	Bulkhead Elbow  S-BEX 22
45° Bulkhead Elbow  S-BEX-45 22	Union Tee  S-T 22	Bulkhead Run Tee  S-BRTX 23	Union Cross  S-X 23

Tube to O-Ring Boss

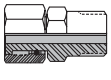
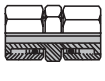
Straight Thread Connector  S-GC 24	Long Straight Thread Connector  S-LGC 24	Bulkhead Connector  S-BGCX 25	Straight Thread Elbow  S-GE 25
45° Straight Thread Elbow  S-GE-45 25	Straight Thread Run Tee  S-GRT 26	Straight Thread Branch Tee  S-GBT 26	

Our selection guide makes it easy to locate any fitting. Simply turn to the page designated in the lower right hand corner.

Tube to Swivel

Swivel Nut Elbow  S-SE 26	Swivel Nut Run Tee  S-SRT 27	Swivel Nut Branch Tee  S-SBT 27

Swivel Adapter

Swivel Nut Male Pipe Connector  SS-C 20	Swivel Nut Union  SS-U 23	Swivel Nut Straight Thread Elbow  SS-GE 26	Straight Thread Swivel Connector  SS-GC 27

Component

Tube Nut  S-N 27	Braze Sleeve  S-S 28	Flanged Sleeve  S-SM 28	Braze Connector  S-FBZ 28
Bulkhead Locknut  S-BN 29	Braze Ring  BR 29	SAE Face Seal O-Ring  S-R 29	Straight Thread Boss O-Ring  R 30

Cap & Plug

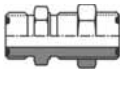
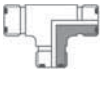
Plug  S-P 30	Cap  AS-Z-2 30

Soft-Seal, Nav-Sea

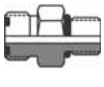
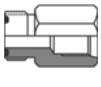
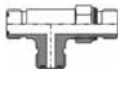
Tube to Male Pipe

Male Pipe Connector  P-C 31	Male Pipe Elbow  P-ME 31	Male Pipe Run Tee  P-TMT 31	Male Pipe Branch Tee  P-TTM 32

Tube to Tube Union

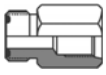
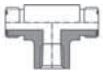
Union  P-U 32	Bulkhead Union  P-BU 32	Elbow  P-E 33	Tee  P-T 33	Cross  P-X 33

Tube to O-Ring Boss

Straight Thread Male Connector  P-GC 34	Straight Thread Female Connector  P-FGC 34	Straight Thread Elbow  P-GE 34	Male Straight Thread Run Tee  P-GRT 35	Male Straight Thread Branch Tee  P-GBT 35

Soft-Seal, Nav-Sea

Tube to Female Pipe

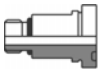
Female Pipe Connector  P-FC 35	Female Pipe Elbow  P-FE 36	Female Pipe Run Tee  P-TFT 36	Female Pipe Branch Tee  P-TTF 36

Component

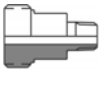
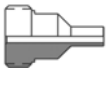
Tail Piece Sleeve  P-S 37	Nut  P-N 38	Blank Body  P-BB 38	Blank Tail Piece  P-BS 38
Male Tube Tail Piece  P-MS 39	Face Seal O-Ring  P-R 39	Straight Thread Boss O-Ring  R 39	Braze Ring  BR 40

Soft-Seal, High Pressure Union

Union, Tailpiece

Tube Socket Tail Piece  Q408R 40	Pipe Socket Weld Tail Piece  Q501R 41	Female Pipe Tail Piece  Q503R 42	Male Pipe Tail Piece  Q504R 42	Male Straight Thread Tail Piece  Q509R 43
Male Pipe Weld Tail Piece  Q602R 43	Female Straight Thread Tail Piece  Q604R 43	Male Standpipe Tail Piece  Q603R 44	Braze Groove Tail Piece  Q502R 44	

Union, Threaded Piece

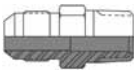
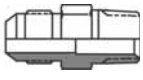
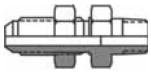
Tube Socket Threaded Piece  Q408T 45	Pipe Socket Weld Threaded Piece  Q501T 45	Female Pipe Threaded Piece  Q503T 46	Male Pipe Threaded Piece  Q504T 46	Male Straight Thread Threaded Piece  Q509T 47
Male Pipe Weld Threaded Piece  Q602T 47	Female Straight Thread Threaded Piece  Q604T 47	Male Standpipe Threaded Piece  Q603T 48	Braze Groove Threaded Piece  Q502T 48	

Component

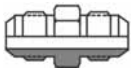
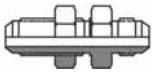
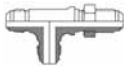
Reducing Insert  Q507R 48	Tube to Pipe Socket Coupling  Q1007 49	Union Nut  Q500N 49	Face Seal O-Ring  Q 50	Braze Ring  BR 50

SAE 37° Flared

Tube to Male Pipe

Male Connector  J-C 51	BSPT Male Connector  J-C-BSPT 52	Male Bulkhead Connector  J-BC 52	Male Elbow  J-ME 53	BSPT Male Elbow  J-ME-BSPT 53
45° Male Elbow  J-ME-45 54	Long Male Elbow  J-LME 54	Extra Long Male Elbow  J-LLME 55	Male Run Tee  J-TMT 55	Male Branch Tee  J-TTM 56

Tube to Tube Union

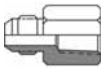
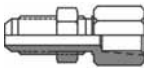
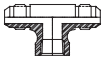
Union  JU 56	Reducing Union  J-U 57	Bulkhead Union  J-BU 57	Large Hex Union  JLHU 58	Large Hex Reducing Union  J-LHU 58
Union Elbow  J-E 59	45° Union Elbow  J-E-45 59	Bulkhead Union Elbow  J-BE 59	45° Bulkhead Union Elbow  J-BE-45 60	
Bulkhead Branch Tee  J-BBT 60	Bulkhead Run Tee  J-BRT 60	Union Tee  J-T 61	Union Cross  J-X 61	

SAE 37° Flared

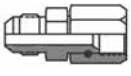
Tube to O-Ring Boss

Straight Thread Connector  J-GC 62	BSPP Connector  J-GC-BSPP 63	Long Straight Thread Connector  J-LGC 63	Straight Thread Elbow  J-GE 64	BSPP Elbow  J-GE-BSPP 65
Long Straight Thread Elbow  J-LGE 65	45° Straight Thread Elbow  J-GE-45 65	Straight Thread Run Tee  J-GRT 66	Straight Thread Branch Tee  J-GBT 66	

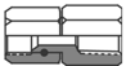
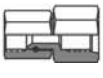
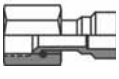
Tube to Female Pipe

Female Connector  J-FC 67	Bulkhead Female Connector  J-BFC 67	Female Elbow  J-FE 68	45° Female Elbow  J-FE-45 68	Female Run Tee  J-TFT 69	Female Branch Tee  J-TTF 69

Tube to Swivel

Swivel Nut Connector  J-SC 70	Swivel Nut Elbow  J-SE 70	45° Swivel Nut Elbow  J-SE-45 70	Swivel Nut Run Tee  J-SRT 71	Swivel Nut Branch Tee  J-SBT 71

Swivel Adapter

Swivel Nut Male Connector  JS-C 71	Swivel Nut Union  JS-U 72	Swivel Nut Straight Thread Connector  JS-GC 72	Swivel Nut Female Connector  JS-FC 72	Swivel Nut Female Port Connector  JS-FP 73	Swivel Nut Socket Connector  JS-SWS 73
Swivel Nut Male Elbow  JS-ME 73	Swivel Nut Straight Thread Elbow  JS-GE 74	Swivel Nut Elbow  JS-E 74	45° Swivel Nut Straight Thread Elbow  JS-GE-45 75	Swivel Nut Tee  JS-T 75	Swivel Nut Cross  JS-X 76

Cap & Plug

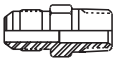
Cap (2-piece)  AJ-Z-2 76	Plug  J-P 77

Component

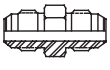
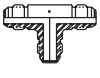
Nut  J-N 77	Sleeve  J-S 77	Metric Sleeve  CS 78	Tube End Reducer  J-TER 78
Tube End Reducer (one piece)  J-TER1 79	Bulkhead Locknut  BN 79	Straight Thread Boss O-Ring  R 79	

UltraFlare

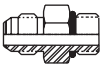
Tube to Pipe

Male Connector  GJ-C 80	Female Connector  GJ-FC 80	Male Elbow  GJ-ME 80	Male Run Tee  GJ-TMT 80

Tube to Tube Union

Union  GJ-U 81	Elbow  GJ-E 81	Tee  GJ-T 81

Tube to O-Ring Boss

Straight Thread Connector  GJ-GC 81	Straight Thread Elbow  GJ-GE 82	Straight Thread Run Tee  GJ-GRT 82

Tube to Swivel

Swivel Nut Elbow  GJ-SE 82

Cap & Plug

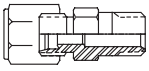
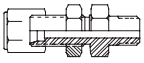
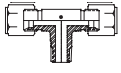
Plug  GJ-P 82

Component

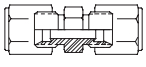
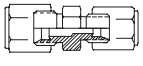
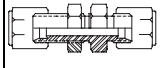
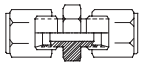
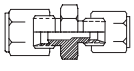
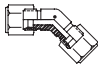
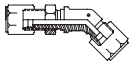
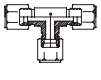
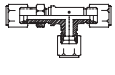
Teflon Ring  GJ-TR 83

SAE Flareless

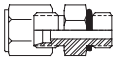
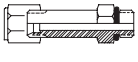
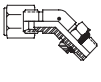
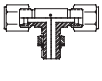
Tube to Male Pipe

Male Connector  AM-C 83	Male Bulkhead Connector  AM-BC 84	Male Elbow  AM-ME 85	Long Male Elbow  AM-LME 86
Extra Long Male Elbow  AM-LLME 86	45° Male Elbow  AM-ME-45 87	Male Run Tee  AM-TMT 88	Male Branch Tee  AM-TTM 89

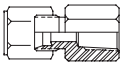
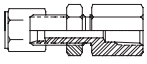
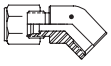
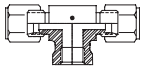
Tube to Tube Union

Union  AMU 89	Reducing Union  AM-U 90	Bulkhead Union  AM-BU 90	Large Hex Union  AMLHU 91	Reducing Large Hex Union  AM-LHU 91
Elbow  AM-E 92	Bulkhead Union Elbow  AM-BE 92	45° Union Elbow  AM-E-45 93	45° Bulkhead Union Elbow  AM-BE-45 93	
Tee  AM-T 94	Cross  AM-X 94	Bulkhead Run Tee  AM-BRT 95	Bulkhead Branch Tee  AM-BBT 95	

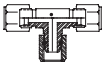
Tube to O-Ring Boss

Straight Thread Connector  AM-GC 96	Long Straight Thread Connector  AM-LGC 96	Straight Thread Elbow  AM-GE 97	Long Straight Thread Elbow  AM-LGE 97
45° Straight Thread Elbow  AM-GE-45 98	Straight Thread Run Tee  AM-GRT 98	Straight Thread Branch Tee  AM-GBT 99	

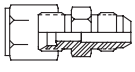
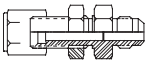
Tube to Female Pipe

Female Connector	Female Bulkhead Connector	Female Elbow	45° Female Elbow	Female Run Tee	Female Branch Tee
					
AM-FC 99	AM-BFC 100	AM-FE 100	AM-FE-45 101	AM-TFT 101	AM-TTF 102

Tube to Swivel

Swivel Nut Elbow	45° Swivel Nut Elbow	Swivel Nut Run Tee	Swivel Nut Branch Tee
			
AM-SE 102	AM-SE-45 103	AM-SRT 103	AM-SBT 104

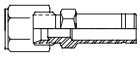
Tube to Tube Adapter

Union	Bulkhead Union
	
AMJ-U 104	AMJ-BU 105

Cap & Plug

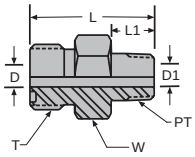
Plug	Cap
	
M-P 105	AM-Z-2 106

Component

Nut	Inch Sleeve	Tube End Reducer	Bulkhead Locknut	Straight Thread Boss O-Ring
				
M-N 106	M-S 106	AM-TER 107	BN 107	R 107

Soft-Seal, SAE

Male Pipe Connector



Download CAD Drawing

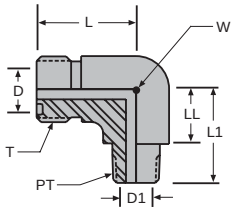
S-C

Tube to Male Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	W Hex	SS Working Pressure
S4C	1/4	1/8 - 27	9/16 - 18	0.17	0.19	1.07	0.38	5/8	6000
S4-4C	1/4	1/4 - 18	9/16 - 18	0.17	0.28	1.26	0.56	5/8	6000
S4-6C	1/4	3/8 - 18	9/16 - 18	0.17	0.17	1.32	0.56	3/4	6000
S6C	3/8	1/4 - 18	11/16 - 16	0.26	0.26	1.25	0.56	3/4	6000
S6-6C	3/8	3/8 - 18	11/16 - 16	0.26	0.41	1.34	0.56	3/4	6000
S6-8C	3/8	1/2 - 14	11/16 - 16	0.26	0.53	1.55	0.75	7/8	6000
S8C	1/2	3/8 - 18	13/16 - 16	0.38	0.41	1.48	0.75	7/8	6000
S8-8C	1/2	1/2 - 14	13/16 - 16	0.38	0.53	1.64	0.75	7/8	6000
S8-12C	1/2	3/4 - 14	13/16 - 16	0.38	0.72	1.69	0.75	1-1/8	6000
S10C	5/8	1/2 - 14	1 - 14	0.48	0.53	1.82	0.75	1-1/16	6000
S12C	3/4	3/4 - 14	1-3/16 - 12	0.61	0.72	1.93	0.75	1-1/4	6000
S16C	1	1 - 11-1/2	1-7/16 - 12	0.81	0.94	2.19	0.94	1-1/2	4000
S20C	1-1/4	1-1/4 - 11-1/2	1-11/16 - 12	1.02	1.25	2.30	0.91	1-7/8	4000
S24C	1-1/2	1-1/2 - 11-1/2	2 - 12	1.26	1.50	2.40	1.00	2-1/8	3000

Male Elbow



Download CAD Drawing

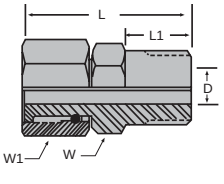
S-ME

Tube to Male Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	LL After Inst.	W Wrench Flat	SS Working Pressure
S4ME	1/4	1/8 - 27	9/16 - 18	0.17	0.19	0.85	0.80	0.57	9/16	6000
S4-4ME	1/4	1/4 - 18	9/16 - 18	0.17	0.28	0.85	1.12	0.78	9/16	6000
S4-6ME	1/4	3/8 - 18	9/16 - 18	0.17	0.41	0.97	1.22	0.87	3/4	6000
S6ME	3/8	1/4 - 18	11/16 - 16	0.26	0.28	0.98	1.09	0.75	3/4	6000
S6-6ME	3/8	3/8 - 18	11/16 - 16	0.26	0.41	0.98	1.22	0.87	3/4	6000
S6-8ME	3/8	1/2 - 14	11/16 - 16	0.26	0.53	1.15	1.47	1.01	7/8	6000
S8ME	1/2	3/8 - 18	13/16 - 16	0.38	0.41	1.10	1.22	0.87	3/4	6000
S8-8ME	1/2	1/2 - 14	13/16 - 16	0.38	0.38	1.10	1.47	1.01	1-7/8	6000
S8-12ME	1/2	3/4 - 14	13/16 - 16	0.38	0.72	1.32	1.59	1.11	1-1/16	4000
S10ME	5/8	1/2 - 14	1 - 14	0.48	0.53	1.31	1.47	1.01	1-1/16	6000
S12ME	3/4	3/4 - 14	1-3/16 - 12	0.61	0.72	1.47	1.59	1.11	1-3/16	4000
S12-8ME	3/4	1/2 - 14	1-3/16 - 12	0.61	0.53	1.47	1.59	1.13	1-3/16	6000
S12-16ME	3/4	1 - 11-1/2	1-3/16 - 12	0.61	0.94	1.62	1.97	1.40	1-5/16	3000
S16ME	1	1 - 11-1/2	1-7/16 - 12	0.81	0.94	1.64	1.97	1.40	1-7/16	3000
S20ME	1-1/4	1-1/4 - 11-1/2	1-11/16 - 12	1.02	1.25	1.76	2.38	1.79	1-5/8	2500
S24ME	1-1/2	1-1/2 - 11-1/2	2 - 12	1.26	1.50	1.92	2.64	2.05	1-7/8	2500

Swivel Nut Male Pipe Connector



SS-C

Tube to Male Pipe

Connects Female NPTF to Male Soft-Seal, SAE

SSP Part Number	Tube O.D.	PT Pipe Thread	L	L1	D Through Hole	W Hex	W1 Hex	SS Working Pressure
SS4C	1/4	1/8	1.35	0.38	0.17	5/8	11/16	6600
SS4-4C	1/4	1/4	1.52	0.56	0.17	5/8	11/16	6600
SS6C	3/8	1/4	1.67	0.56	0.17	3/4	13/16	6000
SS6-6C	3/8	3/8	1.71	0.56	0.26	3/4	13/16	6000
SS6-8C	3/8	1/2	1.67	0.75	0.26	3/4	13/16	6000
SS8C	1/2	3/8	1.96	0.75	0.36	3/4	15/16	5700
SS8-8C	1/2	1/2	2.01	0.75	0.36	7/8	15/16	5700
SS12C	3/4	3/4	2.42	0.75	0.54	1-1/4	1-3/8	4850
SS16C	1	1	2.50	0.94	0.78	1-1/2	1-5/8	4200

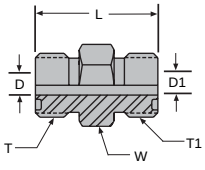
Swivel Nut may be secured by either pinning or crimping to fitting body.

Pressure Ratings Based on ASME B31.3 Power Piping Code

Union

S-U

Tube to Tube Union
Connects fractional tubes



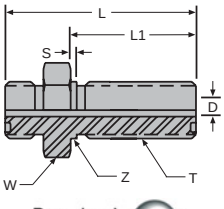
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	W Hex	SS Working Pressure
S4U	1/4	9/16 - 18	9/16 - 18	0.17	0.17	1.08	5/8	9200
S6U	3/8	11/16 - 16	11/16 - 16	0.26	0.26	1.22	3/4	9200
S8U	1/2	13/16 - 16	13/16 - 16	0.38	0.38	1.39	7/8	9200
S10U	5/8	1 - 14	1 - 14	0.48	0.48	1.68	1-1/16	6000
S12U	3/4	1-3/16 - 12	1-3/16 - 12	0.61	0.61	1.85	1-1/4	6000
S16U	1	1-7/16 - 12	1-7/16 - 12	0.81	0.81	1.94	1-1/2	6000
S20U	1-1/4	1-11/16 - 12	1-11/16 - 12	1.02	1.02	2.02	1-3/4	4000
S24U	1-1/2	2 - 12	2 - 12	1.26	1.26	2.09	2-1/8	4000

Bulkhead Union

S-BUX

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

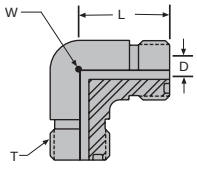
SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	S	W Hex	Z	SS Working Pressure
S4BUX	1/4	9/16 - 18	0.17	1.90	1.24	0.06	13/16	0.56	9200
S6BUX	3/8	11/16 - 16	0.26	2.09	1.34	0.06	1	0.69	9200
S8BUX	1/2	13/16 - 16	0.38	2.30	1.44	0.06	1-1/8	0.81	9200
S10BUX	5/8	1 - 14	0.48	2.62	1.60	0.06	1-5/16	1.00	6000
S12BUX	3/4	1-3/16 - 12	0.61	2.72	1.64	0.06	1-1/2	1.19	6000
S16BUX	1	1-7/16 - 12	0.81	2.76	1.66	0.06	1-3/4	1.44	6000
S20BUX	1-1/4	1-11/16 - 12	1.02	2.76	1.66	0.06	2	1.69	4000
S24BUX	1-1/2	2 - 12	1.26	2.76	1.66	0.06	2-3/8	2.00	4000

To order with bulkhead nut, omit suffix "X" from SSP Part Number. Shown without bulkhead nut.

Union Elbow

S-E

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	W Wrench Flat	SS Working Pressure
S4E	1/4	9/16 - 18	0.17	0.85	9/16	9200
S6E	3/8	11/16 - 16	0.26	0.98	3/4	9200
S8E	1/2	13/16 - 16	0.38	1.10	3/4	9200
S10E	5/8	1 - 14	0.48	1.31	1-1/16	6000
S12E	3/4	1-3/16 - 12	0.61	1.47	1-3/16	6000
S16E	1	1-7/16 - 12	0.81	1.64	1-7/16	6000
S20E	1-1/4	1-11/16 - 12	1.02	1.76	1-5/8	4000
S24E	1-1/2	2 - 12	1.26	1.92	1-7/8	4000

Pressure Ratings Based on ASME B31.3 Power Piping Code

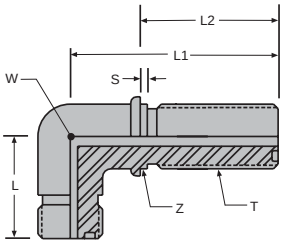
Soft-Seal, SAE

Bulkhead Elbow

S-BEX

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	S	W Wrench Flat	Z	SS Working Pressure
S4BEX	1/4	9/16 - 18	0.17	0.89	1.85	1.24	0.06	9/16	0.56	9200
S6BEX	3/8	11/16 - 16	0.26	1.02	2.05	1.34	0.06	3/4	0.69	9200
S8BEX	1/2	13/16 - 16	0.38	1.14	2.18	1.44	0.06	3/4	0.81	9200
S10BEX	5/8	1 - 14	0.48	1.36	2.48	1.60	0.06	1-1/16	1.00	6000
S12BEX	3/4	1-3/16 - 12	0.61	1.52	2.65	1.64	0.06	1-3/16	1.19	6000
S16BEX	1	1-7/16 - 12	0.81	1.67	2.80	1.66	0.06	1-7/16	1.44	6000
S20BEX	1-1/4	1-11/16 - 12	1.02	1.79	2.97	1.66	0.06	1-5/8	1.69	4000
S24BEX	1-1/2	2 - 12	1.26	1.95	3.13	1.66	0.06	1-7/8	2.00	4000



Download CAD Drawing

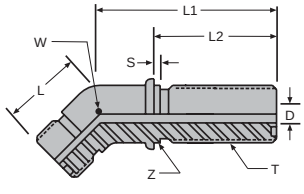
To order with bulkhead nut, omit suffix "X" from SSP Part Number. Shown without bulkhead nut.

45° Bulkhead Elbow

S-BEX-45

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	S	W Wrench Flat	Z	SS Working Pressure
S4BEX-45	1/4	9/16 - 18	0.17	0.63	1.73	1.24	0.06	9/16	0.56	9200
S6BEX-45	3/8	11/16 - 16	0.26	0.74	1.91	1.34	0.06	3/4	0.69	9200
S8BEX-45	1/2	13/16 - 16	0.38	0.80	2.01	1.44	0.06	3/4	0.81	9200
S10BEX-45	5/8	1 - 14	0.48	0.92	2.23	1.60	0.06	1-1/16	1.00	6000
S12BEX-45	3/4	1-3/16 - 12	0.61	1.02	2.39	1.64	0.06	1-3/16	1.19	6000
S16BEX-45	1	1-7/16 - 12	0.81	1.18	2.57	1.66	0.06	1-7/16	1.44	6000
S20BEX-45	1-1/4	1-11/16 - 12	1.02	1.26	2.64	1.66	0.06	1-5/8	1.69	4000
S24BEX-45	1-1/2	2 - 12	1.26	1.45	2.64	1.66	0.06	1-7/8	2.00	4000



Download CAD Drawing

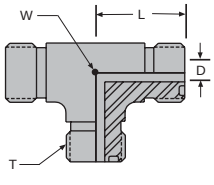
To order with bulkhead nut, omit suffix "X" from SSP Part Number. Shown without bulkhead nut.

Union Tee

S-T

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	W Wrench Flat	SS Working Pressure
S4T	1/4	9/16 - 18	0.17	0.85	9/16	9200
S6T	3/8	11/16 - 16	0.26	0.98	3/4	9200
S8T	1/2	13/16 - 16	0.38	1.10	3/4	9200
S10T	5/8	1 - 14	0.48	1.31	1-1/16	6000
S12T	3/4	1-3/16 - 12	0.61	1.47	1-3/16	6000
S16T	1	1-7/16 - 12	0.81	1.64	1-7/16	6000
S20T	1-1/4	1-11/16 - 12	1.02	1.76	1-5/8	4000
S24T	1-1/2	2 - 12	1.26	1.92	1-7/8	4000



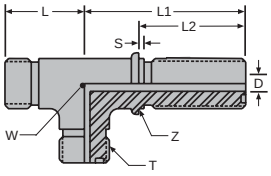
Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

Bulkhead Run Tee

S-BRTX

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

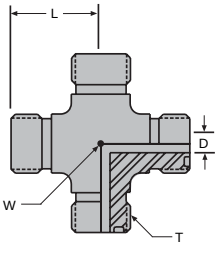
SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	S	W Wrench Flat	Z	SS Working Pressure
S4BRTX	1/4	9/16 - 18	0.17	0.89	1.85	1.24	0.06	9/16	0.56	9200
S6BRTX	3/8	11/16 - 16	0.26	1.02	2.05	1.34	0.06	3/4	0.69	9200
S8BRTX	1/2	13/16 - 16	0.38	1.14	2.18	1.44	0.06	3/4	0.81	9200
S10BRTX	5/8	1 - 14	0.48	1.36	2.48	1.60	0.06	1-1/16	1.00	6000
S12BRTX	3/4	1-3/16 - 12	0.61	1.52	2.65	1.64	0.06	1-3/16	1.19	6000
S16BRTX	1	1-7/16 - 12	0.81	1.67	2.80	1.66	0.06	1-7/16	1.44	6000
S20BRTX	1-1/4	1-11/16 - 12	1.02	1.79	2.97	1.66	0.06	1-5/8	1.69	4000
S24BRTX	1-1/2	2 - 12	1.26	1.95	3.13	1.66	0.06	1-7/8	2.00	4000

To order with bulkhead nut, omit suffix "X" from SSP Part Number. Shown without bulkhead nut.

Union Cross

S-X

Tube to Tube Union
Connects fractional tubes



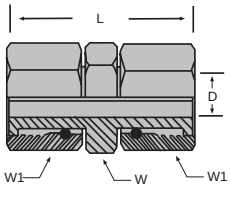
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	W Wrench Flat	SS Working Pressure
S4X	1/4	9/16 - 18	0.17	0.85	9/16	9200
S6X	3/8	11/16 - 16	0.26	0.98	3/4	9200
S8X	1/2	13/16 - 16	0.38	1.10	3/4	9200
S10X	5/8	1 - 14	0.48	1.31	1-1/16	6000
S12X	3/4	1-3/16 - 12	0.61	1.47	1-3/16	6000
S16X	1	1-7/16 - 12	0.81	1.64	1-7/16	6000
S20X	1-1/4	1-11/16 - 12	1.02	1.76	1-5/8	4000
S24X	1-1/2	2 - 12	1.26	1.92	1-7/8	4000

Swivel Nut Union

SS-U

Tube to Tube Union
Connects Male Soft-Seal, SAE



SSP Part Number	Tube O.D.	L	D Through Hole	W Hex	W1 Hex	SS Working Pressure
SS4U	1/4	1.59	0.17	5/8	11/16	6600
SS6U	3/8	1.81	0.27	13/16	13/16	6000
SS8U	1/2	2.12	0.36	7/8	15/16	6000
SS12U	3/4	2.74	0.54	1-1/4	1-3/8	6000
SS16U	1	2.95	0.78	1-7/16	1-5/8	4800

Swivel Nut may be secured by either pinning or crimping to fitting body.

Pressure Ratings Based on ASME B31.3 Power Piping Code

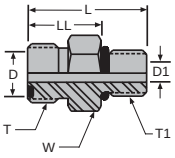
Soft-Seal, SAE

Straight Thread Connector

S-GC

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread



Download CAD Drawing

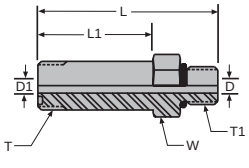
SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	LL After Inst.	W Hex	SS Working Pressure
S4GC	1/4	9/16 - 18	7/16 - 20	0.17	0.17	1.13	0.70	5/8	9200
S4-6GC	1/4	9/16 - 18	9/16 - 18	0.17	0.26	1.20	0.73	3/4	9200
S4-8GC	1/4	9/16 - 18	3/4 - 16	0.17	0.38	1.32	0.77	7/8	9200
S6GC	3/8	11/16 - 16	9/16 - 18	0.26	0.26	1.26	0.79	3/4	9200
S6-4GC	3/8	11/16 - 16	7/16 - 20	0.26	0.17	1.37	0.94	3/4	9200
S6-8GC	3/8	11/16 - 16	3/4 - 16	0.26	0.26	1.38	0.83	7/8	9200
S8GC	1/2	13/16 - 16	3/4 - 16	0.38	0.38	1.44	0.89	7/8	9200
S8-6GC	1/2	13/16 - 16	9/16 - 18	0.38	0.26	1.52	1.05	7/8	9200
S8-12GC	1/2	13/16 - 16	1-1/16 - 12	0.38	0.61	1.75	1.02	1-1/4	6000
S8-16GC	1/2	13/16 - 16	1-5/16 - 12	0.38	0.81	1.60	0.87	1-1/2	6000
S10GC	5/8	1 - 14	7/8 - 14	0.48	0.48	1.70	1.07	1-1/16	6000
S10-8GC	5/8	1 - 14	3/4 - 16	0.48	0.38	1.78	1.23	1-1/16	6000
S10-12GC	5/8	1 - 14	1-1/16 - 12	0.48	0.48	1.85	1.12	1-1/4	6000
S12GC	3/4	1-3/16 - 12	1-1/16 - 12	0.61	0.61	1.91	1.18	1-1/4	6000
S12-8GC	3/4	1-3/16 - 12	3/4 - 16	0.61	0.38	1.91	1.36	1-1/4	6000
S12-16GC	3/4	1-3/16 - 12	1-5/16 - 12	0.61	0.61	1.96	1.23	1-1/2	6000
S16-GC	1	1-7/16 - 12	1-5/16 - 12	0.81	0.81	1.98	1.25	1-1/2	6000
S16-12GC	1	1-7/16 - 12	1-1/16 - 12	0.81	0.61	2.20	1.47	1-1/2	6000
S16-20GC	1	1-7/16 - 12	1-5/8 - 12	0.81	1.02	2.06	1.33	1-7/8	4000
S20GC	1-1/4	1-11/16 - 12	1-5/8 - 12	1.02	1.02	2.06	1.33	1-7/8	4000
S20-16GC	1-1/4	1-11/16 - 12	1-5/16 - 12	1.02	0.81	2.28	1.55	1-7/8	4000
S20-24GC	1-1/4	1-11/16 - 12	1-7/8 - 12	1.02	1.26	2.13	1.40	2-1/8	4000
S24GC	1-1/2	2 - 12	1-7/8 - 12	1.26	1.26	2.13	1.40	2-1/8	4000
S24-20GC	1-1/2	2 - 12	1-5/8 - 12	1.26	1.02	2.35	1.62	2-1/8	4000

Long Straight Thread Connector

S-LGC

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	W Hex	SS Working Pressure
S4LGC	1/4	9/16 - 18	7/16 - 20	0.17	0.17	2.07	1.33	5/8	9200
S6LGC	3/8	11/16 - 16	9/16 - 18	0.26	0.26	2.27	1.45	3/4	9200
S8LGC	1/2	13/16 - 16	3/4 - 16	0.38	0.38	2.68	1.74	7/8	9200
S10LGC	5/8	1 - 14	7/8 - 14	0.48	0.48	3.13	2.04	1-1/16	6000
S12LGC	3/4	1-3/16 - 12	1-1/16 - 12	0.61	0.61	3.76	2.05	1-5/16	6000
S16LGC	1	1-7/16 - 12	1-5/16 - 12	0.81	0.81	4.14	2.85	1-5/8	6000
S20LGC	1-1/4	1-11/16 - 12	1-5/8 - 12	1.02	1.02	4.76	3.39	1-7/8	4000
S24LGC	1-1/2	2 - 12	1-7/8 - 12	1.26	1.26	5.26	3.82	2-1/8	4000

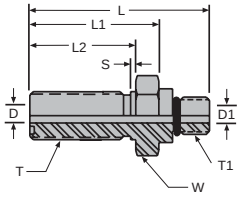
Pressure Ratings Based on ASME B31.3 Power Piping Code

Bulkhead Connector

S-BGCX

Tube to O-Ring Boss

Connects fractional tube to female MS/SAE straight thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	S	W Hex	SS Working Pressure
S4-6BGCX	1/4	9/16 - 18	9/16 - 18	0.17	0.30	2.18	1.71	1.24	0.06	13/16	9200
S6BGCX	3/8	11/16 - 16	9/16 - 18	0.26	0.26	2.28	1.81	1.34	0.06	1	9200
S8BGCX	1/2	13/16 - 16	3/4 - 16	0.38	0.39	2.57	2.03	1.44	0.06	1-1/8	9200

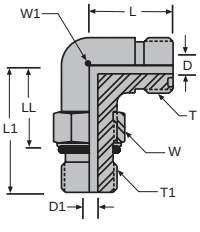
To order with bulkhead nut, omit suffix "X" from SSP Part Number. Shown without bulkhead nut.

Straight Thread Elbow

S-GE

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread



Download CAD Drawing

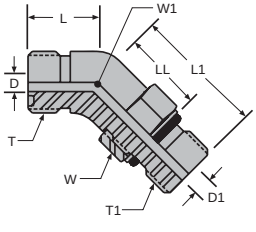
SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	LL After Inst.	W Hex	W1 Wrench Flat	SS Working Pressure
S4GE	1/4	9/16 - 18	7/16 - 20	0.17	0.17	0.85	1.29	0.86	5/8	9/16	6000
S4-6GE	1/4	9/16 - 18	9/16 - 18	0.17	0.26	0.93	1.45	0.98	3/4	9/16	6000
S6GE	3/8	11/16 - 16	9/16 - 18	0.26	0.26	0.98	1.45	0.98	3/4	3/4	6000
S6-4GE	3/8	11/16 - 16	7/16 - 20	0.26	0.17	0.98	1.37	0.94	5/8	3/4	6000
S6-8GE	3/8	11/16 - 16	3/4 - 16	0.26	0.38	1.04	1.60	1.06	15/16	3/4	6000
S8GE	1/2	13/16 - 16	3/4 - 16	0.38	0.38	1.10	1.60	1.06	15/16	3/4	6000
S8-6GE	1/2	13/16 - 16	9/16 - 18	0.38	0.26	1.10	1.44	0.97	3/4	3/4	6000
S10GE	5/8	1 - 14	7/8 - 14	0.48	0.48	1.31	1.97	1.34	1-1/16	1-1/16	6000
S12GE	3/4	1-3/16 - 12	1-1/16 - 12	0.61	0.61	1.47	2.17	1.44	1-3/8	1-3/16	6000
S16GE	1	1-7/16 - 12	1-5/16 - 12	0.81	0.81	1.64	2.35	1.62	1-5/8	1-7/16	5500
S20GE	1-1/4	1-11/16 - 12	1-5/8 - 12	1.02	1.02	1.76	2.45	1.72	1-7/8	1-5/8	4000
S24GE	1-1/2	2 - 12	1-7/8 - 12	1.26	1.26	1.92	2.59	1.86	2-1/8	1-7/8	4000

45° Straight Thread Elbow

S-GE-45

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	LL After Inst.	W Hex	W1 Wrench Flat	SS Working Pressure
S4GE-45	1/4	9/16 - 18	7/16 - 20	0.17	0.17	0.63	1.18	0.75	5/8	9/16	6000
S6GE-45	3/8	11/16 - 16	9/16 - 18	0.26	0.26	0.74	1.30	0.83	3/4	3/4	6000
S8GE-45	1/2	13/16 - 16	3/4 - 16	0.38	0.38	0.80	1.43	0.89	15/16	3/4	6000
S12GE-45	3/4	1-3/16 - 12	1-1/16 - 12	0.61	0.61	1.02	1.97	1.24	1-3/8	1-3/16	6000
S16GE-45	1	1-7/16 - 12	1-5/16 - 12	0.81	0.81	1.18	2.06	1.33	1-5/8	1-7/16	5500
S20GE-45	1-1/4	1-11/16 - 12	1-5/8 - 12	1.02	1.02	1.26	2.11	1.38	1-7/8	1-5/8	4000
S24GE-45	1-1/2	2 - 12	1-7/8 - 12	1.26	1.26	1.45	2.11	1.38	2-1/8	1-7/8	4000

Pressure Ratings Based on ASME B31.3 Power Piping Code

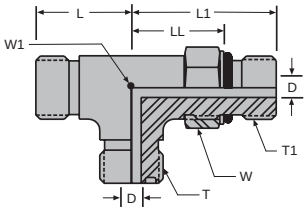
Soft-Seal, SAE

Straight Thread Run Tee

S-GRT

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread



Download CAD Drawing

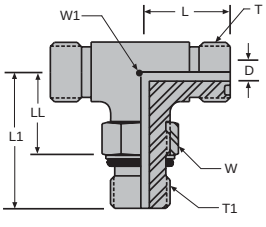
SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	LL After Inst.	W Hex	W1 Wrench Flat	SS Working Pressure
S4GRT	1/4	9/16 - 18	7/16 - 20	0.17	0.17	0.85	1.29	0.86	5/8	9/16	6000
S6GRT	3/8	11/16 - 16	9/16 - 18	0.26	0.26	0.98	1.45	0.98	3/4	3/4	6000
S8GRT	1/2	13/16 - 16	3/4 - 16	0.38	0.38	1.10	1.60	1.06	15/16	3/4	6000
S10GRT	5/8	1 - 14	7/8 - 14	0.48	0.48	1.31	1.97	1.34	1-1/16	1-1/16	6000
S12GRT	3/4	1-3/16 - 12	1-1/16 - 12	0.61	0.61	1.47	2.17	1.44	1-3/8	1-3/16	6000
S16GRT	1	1-7/8 - 12	1-5/16 - 12	0.81	0.81	1.64	2.35	1.62	1-5/8	1-7/16	5500
S20GRT	1-1/4	1-11/16 - 12	1-5/8 - 12	1.02	1.02	1.76	2.45	1.72	1-7/8	1-5/8	4000
S24GRT	1-1/2	2 - 12	1-7/8 - 12	1.26	1.26	1.92	2.59	1.86	2-1/8	1-7/8	4000

Straight Thread Branch Tee

S-GBT

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread



Download CAD Drawing

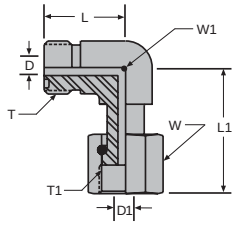
SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	LL After Inst.	W Hex	W1 Wrench Flat	SS Working Pressure
S4GBT	1/4	9/16 - 18	7/16 - 20	0.17	0.85	1.29	0.86	5/8	9/16	6000
S6GBT	3/8	11/16 - 16	9/16 - 18	0.26	0.98	1.45	0.98	3/4	3/4	6000
S8GBT	1/2	13/16 - 16	3/4 - 16	0.38	1.10	1.60	1.06	15/16	3/4	6000
S10GBT	5/8	1 - 14	7/8 - 14	0.48	1.31	1.97	1.34	1-1/16	1-1/16	6000
S12GBT	3/4	1-3/16 - 12	1-1/16 - 12	0.61	1.47	2.17	1.44	1-3/8	1-3/16	6000
S16GBT	1	1-7/16 - 12	1-5/16 - 12	0.81	1.64	2.35	1.62	1-5/8	1-7/16	5500
S20GBT	1-1/4	1-11/16 - 12	1-5/8 - 12	1.02	1.76	2.45	1.72	1-7/8	1-5/8	4000
S24GBT	1-1/2	2 - 12	1-7/8 - 12	1.26	1.92	2.59	1.86	2-1/8	1-7/8	4000

Swivel Nut Elbow

S-SE

Tube to Swivel

Connects fractional tube to male Soft-Seal, SAE



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	W Hex	W1 Wrench Flat	SS Working Pressure
S4SE	1/4	9/16 - 18	9/16 - 18	0.17	0.17	0.85	1.07	11/16	9/16	9200
S6SE	3/8	11/16 - 16	11/16 - 16	0.26	0.26	0.98	1.18	13/16	3/4	9200
S8SE	1/2	13/16 - 16	13/16 - 16	0.38	0.36	1.10	1.49	15/16	3/4	9200
S10SE	5/8	1 - 14	1 - 14	0.48	0.45	1.31	1.65	1-1/8	1-1/16	6000
S12SE	3/4	1-3/16 - 12	1-3/16 - 12	0.61	0.55	1.47	1.82	1-3/8	1-3/16	6000
S16SE	1	1-7/16 - 12	1-7/16 - 12	0.81	0.78	1.64	2.10	1-5/8	1-7/16	6000
S20SE	1-1/4	1-11/16 - 12	1-11/16 - 12	1.02	1.02	1.76	2.29	1-7/8	1-5/8	4000
S24SE	1-1/2	2 - 12	2 - 12	1.26	1.26	1.92	2.41	2-1/4	1-7/8	4000

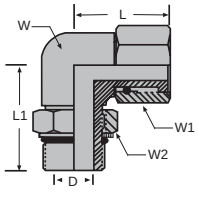
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Straight Thread Elbow

SS-GE

Tube to Swivel

Connects Female Straight Thread to male Soft-Seal, SAE



SSP Part Number	Tube O.D.	T Thread	L	L1	D Through Hole	W Wrench Flat	W1 Hex	W2 Hex	SS Working Pressure
SS4GE	1/4	7/16-20	1.05	1.29	0.17	9/16	11/16	5/8	6600
SS6GE	3/8	9/16-18	1.15	1.45	0.27	3/4	13/16	3/4	6000
SS8GE	1/2	3/4-16	1.50	1.61	0.35	3/4	15/16	15/16	6000
SS12GE	3/4	1-1/16 - 12	1.82	2.16	0.54	1-1/16	1-3/8	1-3/8	6000
SS16GE	1	1-5/16 - 12	2.10	2.35	0.79	1-7/16	1-5/8	1-5/8	4800

Swivel Nut may be secured by either pinning or crimping to fitting body.

Pressure Ratings Based on ASME B31.3 Power Piping Code

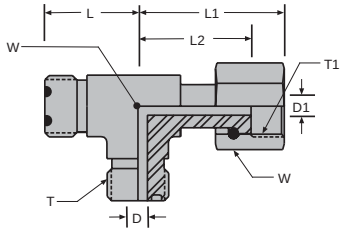
Soft-Seal, SAE

Swivel Nut Run Tee

S-SRT

Tube to Swivel

Connects fractional tube to male Soft-Seal, SAE



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Hex	W1 Wrench Flat	SS Working Pressure
S4SRT	1/4	9/16 - 18	9/16 - 18	0.17	0.17	0.85	1.07	1.04	11/16	9/16	9200
S6SRT	3/8	11/16 - 16	11/16 - 16	0.26	0.26	0.98	1.18	1.15	13/16	3/4	9200
S8SRT	1/2	13/16 - 16	13/16 - 16	0.38	0.36	1.10	1.49	1.49	15/16	3/4	9200
S10SRT	5/8	1 - 14	1 - 14	0.48	0.45	1.31	1.65	1.62	1-1/8	1-1/16	6000
S12SRT	3/4	1-3/16 - 12	1-3/16 - 12	0.61	0.55	1.47	1.82	1.82	1-3/8	1-3/16	6000
S16SRT	1	1-7/16 - 12	1-7/16 - 12	0.81	0.78	1.64	2.10	2.10	1-5/8	1-7/16	6000
S20SRT	1-1/4	1-11/16 - 12	1-11/16 - 12	1.02	1.02	1.76	2.29	2.29	1-7/8	1-5/8	4000
S24SRT	1-1/2	2 - 12	2 - 12	1.26	1.26	1.92	2.41	2.41	2-1/4	1-7/8	4000

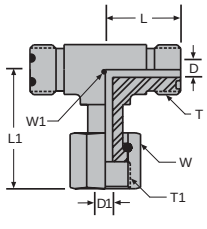
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Branch Tee

S-SBT

Tube to Swivel

Connects fractional tube to male Soft-Seal, SAE



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	W Hex	W1 Wrench Flat	SS Working Pressure
S4SBT	1/4	9/16 - 18	9/16 - 18	0.17	0.17	0.85	1.07	11/16	9/16	9200
S6SBT	3/8	11/16 - 16	11/16 - 16	0.26	0.26	0.98	1.18	13/16	3/4	9200
S8SBT	1/2	13/16 - 16	13/16 - 16	0.38	0.36	1.10	1.49	15/16	3/4	9200
S10SBT	5/8	1 - 14	1 - 14	0.48	0.45	1.31	1.65	1-1/8	1-1/16	6000
S12SBT	3/4	1-3/16 - 12	1-3/16 - 12	0.61	0.55	1.47	1.82	1-3/8	1-3/16	6000
S16SBT	1	1-7/16 - 12	1-7/16 - 12	0.81	0.78	1.64	2.10	1-5/8	1-7/16	6000
S20SBT	1-1/4	1-11/16 - 12	1-11/16 - 12	1.02	1.02	1.76	2.29	1-7/8	1-5/8	4000
S24SBT	1-1/2	2 - 12	2 - 12	1.26	1.26	1.92	2.41	2-1/4	1-7/8	4000

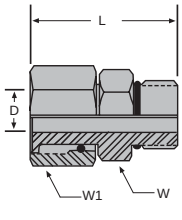
Swivel nut may be secured by either pinning or crimping to fitting body

Straight Thread Swivel Connector

SS-GC

O-Ring Boss to Swivel

Connects SAE/MS Straight Thread to Male Soft-Seal SAE



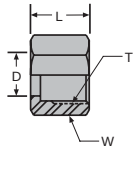
SSP Part Number	Tube O.D.	T Thread	L	D Through Hole	W Hex	W1 Hex	SS Working Pressure
SS4GC	1/4	7/16-20	1.49	0.17	5/8	11/16	6600
SS6GC	3/8	9/16-18	1.62	0.26	3/4	13/16	6000
SS8GC	1/2	3/4-16	1.95	0.36	7/8	15/16	6000
SS12GC	3/4	1-1/16 - 12	2.38	0.55	1-1/4	1-3/8	6000
SS16GC	1	1-5/16 - 12	2.66	0.79	1-1/2	1-5/8	4800

Swivel Nut may be secured by either pinning or crimping to fitting body.

Tube Nut

S-N

Component



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	W Hex	SS Working Pressure
S4N	1/4	9/16 - 18	0.41	0.58	11/16	9200
S6N	3/8	11/16 - 16	0.53	0.67	13/16	9200
S8N	1/2	13/16 - 16	0.65	0.83	15/16	9200
S10N	5/8	1 - 14	0.83	0.93	1-1/8	6000
S12N	3/4	1-3/16 - 12	0.95	1.02	1-3/ 8	6000
S16N	1	1-7/16 - 12	1.14	1.10	1-5/8	6000
S20N	1-1/4	1-11/16 - 12	1.42	1.10	1-7/8	4000
S24N	1-1/2	2 - 12	1.73	1.10	2-1/4	4000

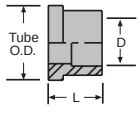
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, SAE

Braze Sleeve

S-S

Component (for brazed tubing)



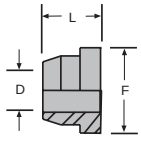
Download CAD Drawing

SSP Part Number	Tube O.D.	D Through Hole	L
S4S	1/4	0.26	0.37
S6S	3/8	0.38	0.37
S6-4S	3/8 - 1/4	0.26	0.41
S8S	1/2	0.51	0.37
S8-6S	1/2 - 3/8	0.38	0.47
S10S	5/8	0.63	0.41
S10-8S	5/8 - 1/2	0.51	0.53
S12S	3/4	0.76	0.55
S12-8S	3/4 - 1/2	0.51	0.57
S12-10S	3/4 - 5/8	0.63	0.57
S16S	1	1.01	0.61
S16-12S	1 - 3/4	0.76	0.67
S20S	1-1/4	1.26	0.61
S20-16S	1-1/4 - 1	1.01	0.83
S24S	1-1/2	1.51	0.61
S24-16S	1-1/2 - 1	1.01	0.83

Flange Sleeve

S-SM

Component (for flanged tubing)



Download CAD Drawing

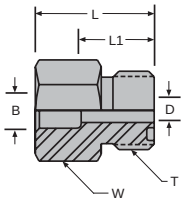
SSP Part Number	Tube O.D.	D Through Hole	F	L
S4SM	1/4	0.25	0.50	0.30
S6SM	3/8	0.38	0.62	0.34
S8SM	1/2	0.50	0.74	0.42
S10SM	5/8	0.63	0.92	0.42
S12SM	3/4	0.75	1.09	0.47
S16SM	1	1.00	1.34	0.53
S20SM	1-1/4	1.25	1.59	0.52
S24SM	1-1/2	1.50	1.91	0.49

Braze Connector

S-FBZ

Component

Connects fractional tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	B	D Through Hole	L	L1	W Hex
S4FBZ	1/4	9/16 - 18	0.26	0.17	0.86	0.52	5/8
S6FBZ	3/8	11/16 - 16	0.38	0.26	0.90	0.56	3/4
S8FBZ	1/2	13/16 - 16	0.51	0.38	0.97	0.63	7/8
S8-6FBZ	1/2	13/16 - 16	0.38	0.38	0.97	0.63	7/8
S10FBZ	5/8	1 - 14	0.63	0.48	1.07	0.73	1-1/16
S12FBZ	3/4	1-3/16 - 12	0.76	0.61	1.32	0.83	1-1/4
S16FBZ	1	1-7/16 - 12	1.01	0.81	1.52	0.97	1-1/2
S20FBZ	1-1/4	1-11/16 - 12	1.26	1.02	1.52	0.97	1-3/4
S24FBZ	1-1/2	2 - 12	1.51	1.26	1.52	0.97	2-1/8

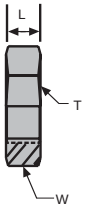
Pressure Ratings Based on ASME B31.3 Power Piping Code

Bulkhead Locknut

S-BN

Component

SSP Part Number	Tube O.D.	T Thread	L	W Hex
S4BN	1/4	9/16 - 18	0.27	13/16
S6BN	3/8	11/16 - 16	0.32	1
S8BN	1/2	13/16 - 16	0.35	1-1/8
S10BN	5/8	1 - 14	0.41	1-5/16
S12BN	3/4	1-3/16 - 12	0.41	1-1/2
S16BN	1	1-7/16 - 12	0.41	1-3/4
S20BN	1-1/4	1-11/16 - 12	0.41	2
S24BN	1-1/2	2 - 12	0.41	2-3/8



Download CAD Drawing

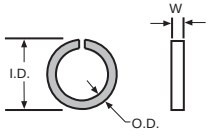
Braze Ring

BR

Component

Silbraze ring for tube socket

SSP Part Number	Tube O.D.	I.D.	O.D.	W Width
4BR	1/4	0.05	0.26	0.09
6BR	3/8	0.07	0.39	0.09
8BR	1/2	0.07	0.52	0.09
10BR	5/8	0.07	0.64	0.09
12BR	3/4	0.08	0.76	0.09
16BR	1	0.08	1.02	0.09
20BR	1-1/4	0.08	1.26	0.09
24BR	1-1/2	0.08	1.52	0.09



Download CAD Drawing

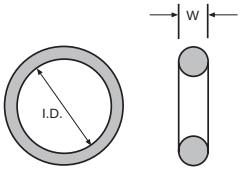
SAE Face Seal O-Ring

S-R

Component

SSP Part Number	Part Number Viton	Tube O.D.	I.D.	W Width
S4R	S4VR	1/4	0.30	0.06
S6R	S6VR	3/8	0.36	0.06
S8R	S8VR	1/2	0.49	0.06
S10R	S10VR	5/8	0.61	0.06
S12R	S12VR	3/4	0.74	0.06
S16R	S16VR	1	0.92	0.06
S20R	S20VR	1-1/4	1.18	0.06
S24R	S24VR	1-1/2	1.49	0.06

Buna is standard material



Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

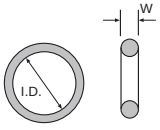
Soft-Seal, SAE

Straight Thread Boss O-Ring

R

Component

SSP Part Number	Part Number Viton	SAE Size	Tube O.D.	I.D.	W Width
2R	2VR	3-902	1/8	0.24	0.06
3R	3VR	3-903	3/16	0.30	0.06
4R	4VR	3-904	1/4	0.35	0.07
5R	5VR	3-905	5/16	0.41	0.07
6R	6VR	3-906	3/8	0.47	0.08
8R	8VR	3-908	1/2	0.64	0.09
10R	10VR	3-910	5/8	0.76	0.10
12R	12VR	3-912	3/4	0.92	0.12
14R	14VR	3-914	7/8	1.05	0.12
16R	16VR	3-916	1	1.17	0.12
20R	20VR	3-920	1-1/4	1.48	0.12
24R	24VR	3-924	1-1/2	1.72	0.12
32R	32VR	3-932	2	2.34	0.12



Download CAD Drawing

Buna is standard material

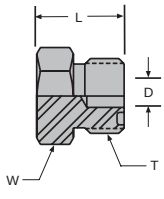
Plug

S-P

Plug

Plugs fractional tube

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	W Hex	SS Working Pressure
S4P	1/4	9/16 - 18	0.17	0.66	5/8	9200
S6P	3/8	11/16 - 16	0.26	0.76	3/4	9200
S8P	1/2	13/16 - 16	0.38	0.86	7/8	9200
S10P	5/8	1 - 14	0.48	1.02	1-1/4	6000
S12P	3/4	1-3/16 - 12	0.61	1.08	1-1/2	6000
S16P	1	1-7/16 - 12	0.81	1.10	1-1/2	6000
S20P	1-1/4	1-11/16 - 12	1.02	1.10	1-3/4	4000
S24P	1-1/2	2 - 12	1.26	1.10	2-1/8	4000



Download CAD Drawing

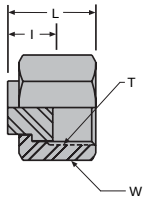
Cap

AS-Z-2

Cap

Caps end of male Soft-Seal ORFS fitting

SSP Part Number	Tube O.D.	T Thread	I	L	W Hex	SS Working Pressure
AS4Z-2	1/4	9/16 - 18	0.33	0.65	11/16	9200
AS6Z-2	3/8	11/16 - 16	0.37	0.74	13/16	9200
AS8Z-2	1/2	13/16 - 16	0.46	0.90	15/16	9200
AS10Z-2	5/8	1 - 14	0.46	1.00	1-1/8	6000
AS12Z-2	3/4	1-3/16 - 12	0.52	1.10	1-3/8	
AS16Z-2	1	1-7/16 - 12	0.58	1.16	1-5/8	
AS20Z-2	1-1/4	1-11/16 - 12	0.58	1.16	1-7/8	4000
AS24Z-2	1-1/2	2 - 12	0.58	1.16	2-1/4	4000



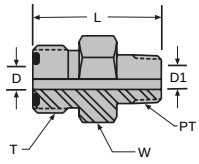
Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

Male Pipe Connector

P-C

Tube to Male Pipe
Connects fractional tube to female NPT thread



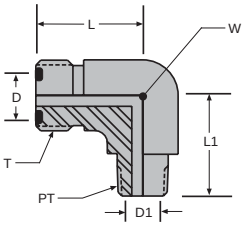
Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	W Hex	SS Working Pressure
P4-4C	1/4	1/4 - 18	9/16 - 18	0.19	0.19	1.78	5/8	6000
P6-4C	3/8	1/4 - 18	11/16 - 16	0.31	0.28	1.30	3/4	6000
P6-6C	3/8	3/8 - 18	11/16 - 16	0.31	0.31	1.37	3/4	6000
P6-8C	3/8	1/2 - 14	11/16 - 16	0.31	0.31	1.52	7/8	6000
P8-6C	1/2	3/8 - 18	13/16 - 16	0.44	0.41	1.36	7/8	6000
P8-8C	1/2	1/2 - 14	13/16 - 16	0.44	0.44	1.55	7/8	6000
P10-8C	5/8	1/2 - 14	1 - 14	0.55	0.53	1.61	1-1/16	6000
P12-12C	3/4	3/4 - 14	1-1/4 - 12	0.66	0.66	1.75	1-3/8	6000
P16-16C	1	1 - 11-1/2	1-1/2 - 12	0.88	0.88	2.00	1-5/8	5500
P20-20C	1-1/4	1-1/4 - 11-1/2	1-3/4 - 12	1.00	1.00	2.05	1-7/8	4000
P24-24C	1-1/2	1-1/2 - 11-1/2	2-1/8 - 12	1.25	1.25	2.25	2-1/4	4000

Male Pipe Elbow

P-ME

Tube to Male Pipe
Connects fractional tube to female NPT thread



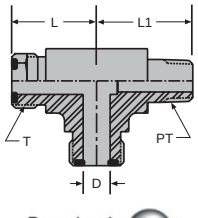
Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	W Wrench Flat	SS Working Pressure
P4-2ME	1/4	1/8 - 27	9/16 - 18	0.19	0.19	0.81	0.81	9/16	6000
P4-4ME	1/4	1/4 - 18	9/16 - 18	0.19	0.19	0.81	1.06	9/16	6000
P6-4ME	3/8	1/4 - 18	11/16 - 16	0.31	0.31	1.06	1.06	3/4	6000
P6-6ME	3/8	3/8 - 18	11/16 - 16	0.31	0.31	1.18	1.18	3/4	6000
P8-6ME	1/2	3/8 - 18	13/16 - 16	0.44	0.44	1.19	1.19	3/4	6000
P8-8ME	1/2	1/2 - 14	13/16 - 16	0.44	0.44	1.19	1.44	1-7/8	6000
P10-8ME	5/8	1/2 - 14	1 - 14	0.55	0.53	1.44	1.44	1-1/16	6000
P12-12ME	3/4	3/4 - 14	1-1/4 - 12	0.66	0.72	1.56	1.56	1-3/16	6000
P16-16ME	1	1 - 11-1/2	1-1/2 - 12	0.88	0.94	1.94	1.94	1-7/16	5500
P20-20ME	1-1/4	1-1/4 - 11-1/2	1-3/4 - 12	1.00	1.25	2.19	2.19	1-5/8	4000
P24-24ME	1-1/2	1-1/2 - 11-1/2	2-1/8 - 12	1.25	1.50	2.38	2.38	1-7/8	4000
P32-32ME	2	2 - 11-1/2	2-7/8 - 12	1.62	1.94	4.12	4.12	2-1/8	3000

Male Pipe Run Tee

P-TMT

Tube to Male Pipe
Connects fractional tube to female NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	SS Working Pressure
P4-4-4TMT	1/4	1/4 - 18	9/16 - 18	0.19	0.81	1.06	6000
P6-6-6TMT	3/8	3/8 - 18	11/16 - 16	0.31	1.18	1.18	6000
P8-6-8TMT	1/2	3/8 - 18	13/16 - 16	0.44	1.18	1.18	6000
P8-8-8TMT	1/2	1/2 - 14	13/16 - 16	0.44	1.18	1.18	6000
P10-8-10TMT	5/8	1/2 - 14	1 - 14	0.55	1.44	1.44	6000
P12-12-12TMT	3/4	3/4 - 14	1-1/4 - 12	0.72	1.56	1.56	6000
P16-16-16TMT	1	1 - 11-1/2	1-1/2 - 12	0.87	1.94	1.94	5500

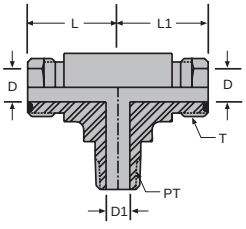
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, Nav-Sea

Male Pipe Branch Tee

P-TTM

Tube to Male Pipe
Connects fractional tube to female NPT thread



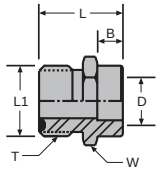
Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	SS Working Pressure
P4-4-2TTM	1/4	1/8 - 27	9/16 - 18	0.19	0.19	0.81	0.81	6000
P4-4-4TTM	1/4	1/4 - 18	9/16 - 18	0.19	0.28	0.81	0.81	6000
P6-6-4TTM	3/8	1/4 - 18	11/16 - 16	0.31	0.28	1.06	1.06	6000
P6-6-6TTM	3/8	3/8 - 18	11/16 - 16	0.31	0.41	1.06	1.06	6000
P8-8-6TTM	1/2	3/8 - 18	13/16 - 16	0.44	0.41	1.19	1.19	6000
P8-8-8TTM	1/2	1/2 - 14	13/16 - 16	0.44	0.44	1.19	1.19	6000
P10-10-8TTM	5/8	1/2 - 14	1 - 14	0.55	0.53	1.44	1.44	6000
P12-12-12TTM	3/4	3/4 - 14	1-1/4 - 12	0.66	0.72	1.56	1.56	6000
P16-16-16TTM	1	1 - 11-1/2	1-1/2 - 12	0.88	0.94	1.94	1.94	5500
P20-20-20TTM	1-1/4	1-1/4 - 11-1/2	1-3/4 - 12	1.00	1.00	2.19	2.19	4000

Union

P-U

Tube to Tube Union
Connects fractional tubes



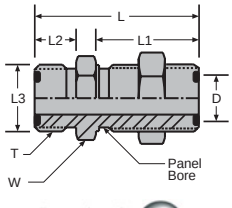
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	B Socket Depth	D Through Hole	L	L1	W Hex	SS Working Pressure
P2U	1/8	7/16 - 20	0.19	0.09	0.62	0.37	1/2	8600
P4U	1/4	9/16 - 18	0.19	0.19	0.63	0.48	5/8	8250
P6U	3/8	11/16 - 16	0.25	0.31	0.81	0.61	3/4	6250
P8U	1/2	13/16 - 16	0.31	0.44	0.95	0.74	7/8	6350
P10U	5/8	1 - 14	0.38	0.55	1.05	0.90	1-1/16	6050
P12U	3/4	1-1/4 - 12	0.44	0.66	1.25	1.13	1-3/8	5900
P16U	1	1-1/2 - 12	0.50	0.88	1.36	1.38	1-5/8	5250
P20U	1-1/4	1-3/4 - 12	0.56	1.00	1.42	1.63	1-7/8	4700
P24U	1-1/2	2-1/8 - 12	0.63	1.25	1.56	2.00	2-1/4	4400
P32U	2	2-7/8 - 12	0.88	1.62	1.92	2.76	3	4200

Bulkhead Union

P-BU

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	L3	Panel Bore	W Hex	SS Working Pressure
P2BU	1/8	7/16 - 20	0.09	1.55	1.00	0.33	0.37	0.53	1/2	6000
P4BU	1/4	9/16 - 18	0.19	1.55	1.00	0.34	0.48	0.59	5/8	6000
P6BU	3/8	11/16 - 16	0.31	1.75	1.05	0.41	0.61	0.72	3/4	6000
P8BU	1/2	13/16 - 16	0.44	2.00	1.19	0.47	0.74	0.84	7/8	6000
P10BU	5/8	1 - 14	0.55	2.25	1.30	0.52	0.90	1.03	1-1/16	6000
P12BU	3/4	1-1/4 - 12	0.66	2.25	1.30	0.62	1.13	1.28	1-3/8	6000
P16BU	1	1-1/2 - 12	0.88	2.36	1.36	0.68	1.38	1.53	1-5/8	5500
P20BU	1-1/4	1-3/4 - 12	1.00	2.36	1.36	0.75	1.63	1.78	1-7/8	4000
P24BU	1-1/2	2-1/8 - 12	1.25	2.50	1.43	0.68	2.00	2.19	2-1/4	4000
P32BU	2	2-7/8 - 12	1.62	2.50	1.43	0.75	2.76		3	3000

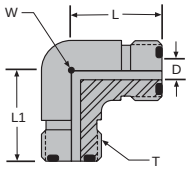
Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

Elbow

P-E

Tube to Tube Union
Connects fractional tubes



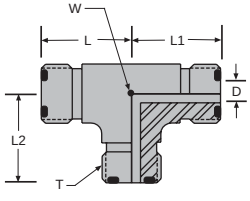
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure
P4E	1/4	9/16 - 18	0.19	0.81	0.81	9/16	6000
P6E	3/8	11/16 - 16	0.31	1.06	1.06	3/4	6000
P8E	1/2	13/16 - 16	0.44	1.19	1.19	3/4	6000
P10E	5/8	1 - 14	0.55	1.42	1.42	1-1/16	6000
P12E	3/4	1-1/4 - 12	0.66	1.56	1.56	1-3/16	6000
P16E	1	1-1/2 - 12	0.88	1.94	1.94	1-7/16	5500
P20E	1-1/4	1-3/4 - 12	1.00	2.19	2.19	1-5/8	4000
P24E	1-1/2	2-1/8 - 12	1.25	2.37	2.37	1-7/8	4000
P32E	2	2-7/8 - 12	1.62	2.62	2.62	2-1/8	3000

Tee

P-T

Tube to Tube Union
Connects fractional tubes



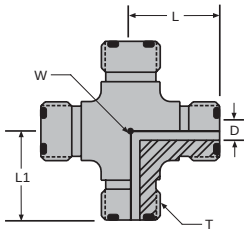
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure
P4T	1/4	9/16 - 18	0.19	0.81	0.81	0.81	9/16	6000
P6T	3/8	11/16 - 16	0.31	1.06	1.06	1.06	3/4	6000
P8T	1/2	13/16 - 16	0.44	1.19	1.19	1.19	3/4	6000
P10T	5/8	1 - 14	0.55	1.44	1.44	1.44	1-1/16	6000
P12T	3/4	1-1/4 - 12	0.66	1.56	1.56	1.56	1-3/16	6000
P16T	1	1-1/2 - 12	0.88	1.94	1.94	1.94	1-7/16	5500
P20T	1-1/4	1-3/4 - 12	1.00	2.37	2.37	2.37	1-5/8	4000
P24T	1-1/2	2-1/8 - 12	1.25	2.62	2.62	2.62	1-7/8	4000
P32T	2	2-7/8 - 12	1.62	5.25	5.25	5.25	2-1/8	3000

Cross

P-X

Tube to Tube Union
Connects fractional tubes



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SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure
P4X	1/4	9/16 - 18	0.48	0.81	0.81	9/16	6000
P6X	3/8	11/16 - 16	0.61	1.06	1.06	3/4	6000
P8X	1/2	13/16 - 16	0.44	1.19	1.19	3/4	6000
P10X	5/8	1 - 14	0.90	1.44	1.44	1-1/16	6000
P12X	3/4	1-1/4 - 12	1.13	1.56	1.56	1-3/16	6000
P16X	1	1-1/2 - 12	0.88	1.94	1.94	1-7/16	5500
P20X	1-1/4	1-3/4 - 12	1.63	2.19	2.19	1-5/8	4000

Pressure Ratings Based on ASME B31.3 Power Piping Code

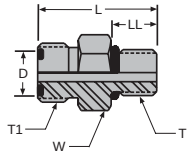
Soft-Seal, Nav-Sea

Straight Thread Male Connector

P-GC

Tube to O-Ring Boss
Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	LL After Inst.	W Hex	SS Working Pressure
P2-2GC	1/8	5/16 - 24	7/16 - 20	0.09	1.00	0.36	1/2	9250
P4-4GC	1/4	7/16 - 20	9/16 - 18	0.19	1.06	0.41	5/8	9050
P6-6GC	3/8	9/16 - 18	11/16 - 16	0.31	1.20	0.43	13/16	7250
P8-8GC	1/2	3/4 - 16	13/16 - 16	0.44	1.32	0.47	15/16	7450
P10-10GC	5/8	7/8 - 14	1 - 14	0.55	1.44	0.53	1-1/8	7100
P12-12GC	3/4	1-1/16 - 12	1-1/4 - 12	0.66	1.62	0.63	1-3/8	6900
P16-16GC	1	1-5/16 - 12	1-1/2 - 12	0.88	1.75	0.63	1-5/8	5500
P20-20GC	1-1/4	1-5/8 - 12	1-3/4 - 12	1.00	1.81	0.63	2	5500
P24-24GC	1-1/4	1-7/8 - 12	2-1/8 - 12	1.25	1.88	0.63	2-3/8	5200
P32-32GC	2	2-1/2 - 12	2-7/8 - 12	1.62	2.00	0.63	3-1/4	5200



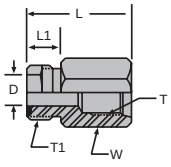
Download CAD Drawing

Straight Thread Female Connector

P-FGC

Tube to O-Ring Boss
Connects fractional tube to male SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
P4-4FGC	1/4	7/16 - 20	9/16 - 18	0.19	1.11	0.34	3/4	6000
P6-6FGC	3/8	9/16 - 18	11/16 - 16	0.31	1.32	0.43	7/8	6150
P8-8FGC	1/2	3/4 - 16	13/16 - 16	0.44	1.50	0.47	1-1/16	6000
P10-10FGC	5/8	7/8 - 14	1 - 14	0.52	1.75	0.54	1-1/8	6000
P12-12FGC	3/4	1-1/16 - 12	1-1/4 - 12	0.66	1.87	0.63	1-3/8	6000
P16-16FGC	1	1-5/16 - 12	1-1/2 - 12	0.88	2.06	0.68	1-5/8	6000
P20-20FGC	1-1/4	1-5/8 - 12	1-3/4 - 12	1.00	2.12	0.75	2	4000
P24-24FGC	1-1/2	1-7/8 - 12	2-1/8 - 12	1.25	2.12	0.69	2-1/4	4000
P32-32FGC	2	2-1/2 - 12	2-7/8 - 12	1.62	2.00	0.75	3	3000



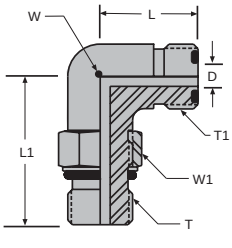
Download CAD Drawing

Straight Thread Elbow

P-GE

Tube to O-Ring Boss
Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	W Wrench Flat	W1 Hex	SS Working Pressure
P4-4GE	1/4	7/16 - 20	9/16 - 18	0.19	0.81	1.12	9/16	5/8	9050
P6-6GE	3/8	9/16 - 18	11/16 - 16	0.31	1.06	1.25	3/4	13/16	7250
P8-8GE	1/2	3/4 - 16	13/16 - 16	0.44	1.19	1.44	3/4	15/16	7450
P10-10GE	5/8	7/8 - 14	1 - 14	0.55	1.43	1.68	1-1/16	1-1/8	7100
P12-12GE	3/4	1-1/16 - 12	1-1/4 - 12	0.66	1.56	1.93	1-3/16	1-3/8	6900
P16-16GE	1	1-5/16 - 12	1-1/2 - 12	0.88	1.94	2.06	1-7/16	1-5/8	6000
P20-20GE	1-1/4	1-5/8 - 12	1-3/4 - 12	1.00	2.18	2.18	1-5/8	2	5500
P24-24GE	1-1/2	1-7/8 - 12	2-1/8 - 12	1.25	2.37	2.37	1-7/8	2-3/8	5000
P32-32GE	2	2-1/2 - 12	2-7/8 - 12	1.62	3.94	4.66	2-1/4	3-1/4	5000



Download CAD Drawing

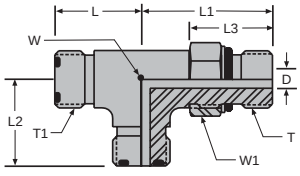
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, Nav-Sea

Male Straight Thread Run Tee

P-GRT

Tube to O-Ring Boss
Connects fractional tube to female SAE/MS straight thread



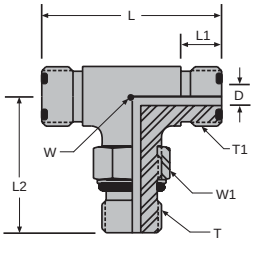
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	L3	W1 Hex	W Wrench Flat	SS Working Pressure
P4-4-4GRT	1/4	7/16 - 20	9/16 - 18	0.19	0.81	1.12	0.81	0.70	5/8	9/16	6000
P6-6-6GRT	3/8	9/16 - 18	11/16 - 16	0.31	1.06	1.25	1.18	0.77	13/16	3/4	6000
P8-8-8GRT	1/2	3/4 - 16	13/16 - 16	0.44	1.18	1.44	1.18	0.88	15/16	3/4	6000
P10-10-10GRT	5/8	7/8 - 14	1 - 14	0.55	1.43	1.68	1.43	1.02	1-1/8	1-1/16	6000
P12-12-12GRT	3/4	1-1/16 - 12	1-1/4 - 12	0.66	1.56	1.94	2.25	1.16	1-3/8	1-3/16	6000
P16-16-16GRT	1	1-5/16 - 12	1-1/2 - 12	0.88	1.94	2.06	2.25	1.16	1-5/8	1-7/16	5500
P20-20-20GRT	1-1/2	1-5/8 - 12	1-3/4 - 12	1.09	5.25	2.19	3.06	1.16	2	1-5/8	4000
P24-24-24GRT	1-1/4	1-7/8 - 12	2-1/8 - 12	1.34	5.69	2.38	2.38	1.16	2-3/8	1-7/8	4000

Male Straight Thread Branch Tee

P-GBT

Tube to O-Ring Boss
Connects fractional tube to female SAE/MS straight thread



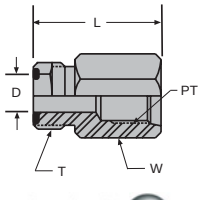
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	W Wrench Flat	W1 Hex	SS Working Pressure
P4-4-4GBT	1/4	7/16 - 20	9/16 - 18	0.19	1.62	0.34	1.13	9/16	5/8	6000
P6-6-6GBT	3/8	9/16 - 18	11/16 - 16	0.31	2.12	0.43	1.25	3/4	13/16	6000
P8-8-8GBT	1/2	3/4 - 16	13/16 - 16	0.44	2.36	1.44	1.44	3/4	15/16	6000
P10-10-10GBT	5/8	7/8 - 14	1 - 14	0.44	2.86	1.94	1.69	1-1/16	1-1/8	6000
P12-12-12GBT	3/4	1-1/16 - 12	1-1/4 - 12	0.66	3.12	0.63	1.94	1-3/16	1-3/8	6000
P16-16-16GBT	1	1-5/16 - 12	1-1/2 - 12	0.88	3.88	0.69	2.06	1-7/16	1-5/8	5500
P20-20-20GBT	1-1/2	1-5/8 - 12	1-3/4 - 12	1.00	4.38	0.75	2.19	1-5/8	2	4000
P24-24-24GBT	1-1/4	1-7/8 - 12	2-1/8 - 12	1.25	4.75	0.69	2.38	1-7/8	2-3/8	4000

Female Pipe Connector

P-FC

Tube to Female Pipe
Connects fractional tube to male NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	W Hex	SS Working Pressure
P4-2FC	1/4	1/8 - 27	9/16 - 18	0.19	1.11	5/8	6000
P4-4FC	1/4	1/4 - 18	9/16 - 18	0.19	1.31	3/4	6000
P6-4FC	3/8	1/4 - 18	11/16 - 16	0.31	1.30	3/4	6000
P6-6FC	3/8	3/8 - 18	11/16 - 16	0.31	1.50	7/8	6000
P8-6FC	1/2	3/8 - 18	13/16 - 16	0.44	1.50	7/8	6000
P8-8FC	1/2	1/2 - 14	13/16 - 16	0.44	1.80	1-1/8	6000
P10-8FC	5/8	1/2 - 14	1 - 14	0.55	1.75	1-1/8	6000
P12-12FC	3/4	3/4 - 14	1-1/4 - 12	0.66	1.87	1-3/8	6000
P16-16FC	1	1 - 11-1/2	1-1/2 - 12	0.88	2.06	1-3/4	5500
P20-20FC	1-1/4	1-1/4 - 11-1/2	1-3/4 - 12	1.00	2.12	2-1/4	4000
P24-24FC	1-1/2	1-1/2 - 11-1/2	2-1/8 - 12	1.25	2.12	2-1/2	4000
P32-32FC	2	2 - 11-1/2	2-7/8 - 12	1.62	2.38	3	3000

Pressure Ratings Based on ASME B31.3 Power Piping Code

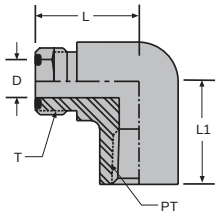
Soft-Seal, Nav-Sea

Female Pipe Elbow

P-FE

Tube to Female Pipe
Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	SS Working Pressure
P4-2FE	1/4	1/8 - 27	9/16 - 18	0.19	0.81	0.81	6000
P4-4FE	1/4	1/4 - 18	9/16 - 18	0.19	1.06	1.06	6000
P6-4FE	3/8	1/4 - 18	11/16 - 16	0.31	1.06	1.06	6000
P6-6FE	3/8	3/8 - 18	11/16 - 16	0.31	1.19	1.19	6000
P8-6FE	1/2	3/8 - 18	13/16 - 16	0.44	1.19	1.19	6000
P8-8FE	1/2	1/2 - 14	13/16 - 16	0.44	1.50	1.44	6000
P10-8FE	5/8	1/2 - 14	1 - 14	0.55	1.44	1.44	6000
P12-12FE	3/4	3/4 - 14	1-1/4 - 12	0.66	1.56	1.56	6000
P16-16FE	1	1 - 11-1/2	1-1/2 - 12	0.88	2.19	2.19	5500



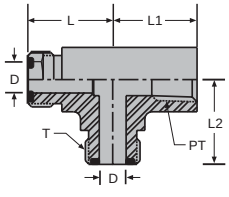
Download CAD Drawing

Female Pipe Run Tee

P-TFT

Tube to Female Pipe
Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	SS Working Pressure
P4-2-4TFT	1/4	1/8 - 27	9/16 - 18	0.19	0.81	0.81	0.81	6000
P6-4-6TFT	3/8	1/4 - 18	11/16 - 16	0.31	1.06	1.06	1.06	6000
P10-8-10TFT	5/8	1/2 - 14	1 - 14	0.90	1.44	1.44	1.44	6000
P12-12-12TFT	3/4	3/4 - 14	1-1/4 - 12	0.66	1.56	1.56	1.56	6000
P16-12-16TFT	1	3/4 - 14	1-1/2 - 12	0.88	1.94	1.94	1.94	5500



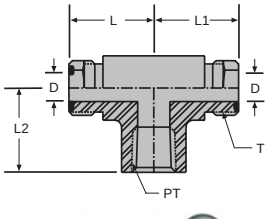
Download CAD Drawing

Female Pipe Branch Tee

P-TTF

Tube to Female Pipe
Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	SS Working Pressure
P4-4-2TTF	1/4	1/8 - 27	9/16 - 18	0.19	0.81	0.81	0.81	6000
P4-4-4TTF	1/4	1/4 - 18	9/16 - 18	0.31	1.06	1.06	1.06	6000
P6-6-4TTF	3/8	1/4 - 18	11/16 - 16	0.31	1.06	1.06	1.06	6000
P8-8-6TTF	1/2	3/8 - 18	13/16 - 16	0.44	1.19	1.19	1.19	6000
P10-10-8TTF	5/8	1/2 - 14	1 - 14	0.55	1.44	1.44	1.44	6000
P12-12-8TTF	1/2	1/2 - 14	1-1/4 - 12	0.66	1.56	1.56	1.56	6000
P16-16-12TTF	1	3/4 - 14	1-1/2 - 12	0.88	1.94	1.94	1.94	5500

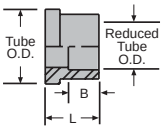


Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

Tail Piece Sleeve

P-S
Component



Download CAD Drawing

SSP Part Number	Tube O.D.	Reduced Tube O.D.	B Socket Depth	L
P2S	1/8	1/8	0.19	3/8
P4S	1/4	1/4	0.19	3/8
P4-2S	1/4	1/8	0.19	3/8
P6S	3/8	3/8	0.25	7/16
P6-2S	3/8	1/8	0.19	3/8
P6-4S	3/8	1/4	0.19	3/8
P8S	1/2	1/2	0.31	1/2
P8-4S	1/2	1/4	0.19	3/8
P8-6S	1/2	3/8	0.25	7/16
P10S	5/8	5/8	0.38	5/8
P10-4S	5/8	1/4	0.19	7/16
P10-6S	5/8	3/8	0.25	1/2
P10-8S	5/8	1/2	0.31	9/16
P12S	3/4	3/4	0.44	11/16
P12-4S	3/4	1/4	0.19	7/16
P12-6S	3/4	3/8	0.25	1/2
P12-8S	3/4	1/2	0.31	9/16
P12-10S	3/4	5/8	0.38	5/8
P16S	1	1	0.50	13/16
P16-4S	1	1/4	0.19	1/2
P16-6S	1	3/8	0.25	9/16
P16-8S	1	1/2	0.31	5/8
P16-10S	1	5/8	0.38	11/16
P16-12S	1	3/4	0.44	3/4
P20S	1-1/4	1-1/4	0.56	7/8
P20-4S	1-1/4	1/4	0.19	9/16
P20-6S	1-1/4	3/8	0.25	9/16
P20-8S	1-1/4	1/2	0.31	5/8
P20-10S	1-1/4	5/8	0.38	11/16
P20-12S	1-1/4	3/4	0.44	3/4
P20-16S	1-1/4	1	0.50	13/16
P24S	1-1/2	1-1/2	0.63	15/16
P24-6S	1-1/2	3/8	0.25	9/16
P24-8S	1-1/2	1/2	0.31	5/8
P24-10S	1-1/2	5/8	0.38	11/16
P24-12S	1-1/2	3/4	0.44	3/4
P24-16S	1-1/2	1	0.50	13/16
P24-20S	1-1/2	1-1/4	0.56	7/8
P32S	2	2	0.88	1-1/4
P32-8S	2	1/2	0.31	11/16
P32-10S	2	5/8	0.38	3/4
P32-12S	2	3/4	0.44	13/16
P32-16S	2	1	0.50	7/8
P32-20S	2	1-1/4	0.56	15/16
P32-24S	2	1-1/2	0.63	1

Pressure Ratings Based on ASME B31.3 Power Piping Code

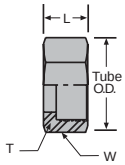
Soft-Seal, Nav-Sea

Nut

P-N

Component

SSP Part Number	Tube O.D.	T Thread	L	W Hex
P2N	1/8	7/16 - 20	3/8	1/2
P4N	1/4	9/16 - 18	3/8	5/8
P6N	3/8	11/16 - 16	7/16	13/16
P8N	1/2	13/16 - 16	1/2	15/16
P10N	5/8	1 - 14	19/32	1-1/8
P12N	3/4	1-1/4 - 12	19/32	1-3/8
P16N	1	1-1/2 - 12	3/4	1-5/8
P20N	1-1/4	1-3/4 - 12	3/4	2
P24N	1-1/2	2-1/8 - 12	13/16	2-3/8
P32N	2	2-7/8 - 12	15/16	3-1/4



Download CAD Drawing

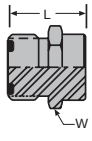
Blank Body

P-BB

Component

SSP Part Number	Tube O.D.	L	W
P4BB	1/4	5/8	5/8
P6BB	3/8	13/16	3/4
P8BB	1/2	15/16	7/8
P10BB	5/8	1-1/16	1-1/16
P12BB	3/4	1-1/4	1-3/8
P16BB	1	1-3/8	1-5/8
P20BB	1-1/4	1-7/16	1-7/8
P24BB	1-1/2	1-9/16	2-1/4
P32BB	2	1-15/16	3

No drill hole



Download CAD Drawing

Blank Tail Piece

P-BS

Component

SSP Part Number	Tube O.D.	L
P2BS	1/8	3/8
P4BS	1/4	3/8
P6BS	3/8	7/16
P8BS	1/2	1/2
P10BS	5/8	5/8
P12BS	3/4	11/16
P16BS	1	13/16
P20BS	1-1/4	7/8
P24BS	1-1/2	15/16
P32BS	2	1-1/4

No drill hole

Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

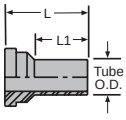
Soft-Seal, Nav-Sea

Male Tube Tail Piece

P-MS

Component

Connects to tube socket



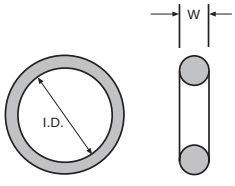
Download CAD Drawing

SSP Part Number	Tube O.D.	L	L1	SS Working Pressure
P4MS	1/4	11/16	7/16	6000
P6MS	3/8	7/8	9/16	6000
P8MS	1/2	1	11/16	6000
P10MS	5/8	1-3/16	13/16	6000
P12MS	3/4	1-5/16	15/16	6000
P16MS	1	1-1/2	1-3/16	6000
P20MS	1-1/4	1-11/16	1-1/4	4000
P24MS	1-1/2	1-7/8	1-3/8	4000

Face Seal O-Ring

P-R

Component



Download CAD Drawing

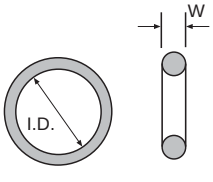
SSP Part Number	Part Number Viton	Tube O.D.	I.D	W Width	Dash Number
P4R	P4VR	1/4	0.30	0.07	-011
P6R	P6VR	3/8	0.36	0.07	-013
P8R	P8VR	1/2	0.49	0.07	-015
P10R	P10VR	5/8	0.61	0.07	-017
P12R	P12VR	3/4	0.74	0.07	-019
P16R	P16VR	1	0.92	0.07	-022
P20R	P20VR	1-1/4	1.18	0.07	-123
P24R	P24VR	1-1/2	1.49	0.07	-127

Buna is standard material

Straight Thread Boss O-Ring

R

Component



Download CAD Drawing

SSP Part Number	Part Number Viton	SAE Size	Tube O.D.	I.D.	W Width
2R	2VR	3-902	1/8	0.24	0.06
3R	3VR	3-903	3/16	0.30	0.06
4R	4VR	3-904	1/4	0.35	0.07
5R	5VR	3-905	5/16	0.41	0.07
6R	6VR	3-906	3/8	0.47	0.08
8R	8VR	3-908	1/2	0.64	0.09
10R	10VR	3-910	5/8	0.76	0.10
12R	12VR	3-912	3/4	0.92	0.12
14R	14VR	3-914	7/8	1.05	0.12
16R	16VR	3-916	1	1.17	0.12
20R	20VR	3-920	1-1/4	1.48	0.12
24R	24VR	3-924	1-1/2	1.72	0.12
32R	32VR	3-932	2	2.34	0.12

Buna is standard material

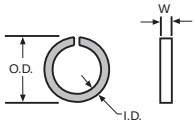
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, Nav-Sea

Braze Ring

BR

Component
Silbraze ring for tube socket



Download CAD Drawing

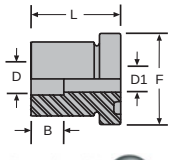
SSP Part Number	Tube O.D.	I.D.	O.D.	W Width
4BR	1/4	0.05	0.26	0.09
6BR	3/8	0.07	0.39	0.09
8BR	1/2	0.07	0.52	0.09
10BR	5/8	0.07	0.64	0.09
12BR	3/4	0.08	0.76	0.09
16BR	1	0.08	1.02	0.09
20BR	1-1/4	0.08	1.26	0.09
24BR	1-1/2	0.08	1.52	0.09

Soft-Seal, High Pressure Union

Tube Socket Tail Piece

Q408R

Union, Tailpiece
Connects fractional tube or standpipe to Threaded Piece



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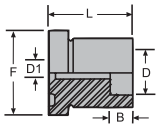
SSP Part Number	Tube Size	B	D	D1	F	L	SS Working Pressure
Q408R-0	1/4	3/8	0.25	3/16	29/32	11/16	6500
Q408R-1	3/8	3/8	0.38	5/16	1-1/16	1-1/16	6550
Q408R-2	1/2	7/16	0.50	7/16	1-1/4	1-1/8	6700
Q408R-3	3/4	1/2	0.75	1/2	1-5/8	1-1/8	5800
Q408R-4	1	9/16	1.00	5/8	1-7/8	1-1/8	4700
Q408R-5	1-1/4	5/8	1.25	13/16	2-3/16	1-1/4	4900
Q408R-6	1-1/2	11/16	1.50	1-3/16	2-5/8	1-3/8	4900
Q408R-7	2	3/4	2.00	1-3/8	2-15/16	1-5/8	3900

Pressure Ratings Based on ASME B31.3 Power Piping Code

Pipe Socket Weld Tail Piece

Q501R

Union, Tailpiece
Connects pipe to Tail Piece



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SSP Part Number	Nominal IPS	B	D	D1	F	L	SS Working Pressure
Q501R-0	1/8	3/8	0.42	7/32	29/32	11/16	6000
Q501R-1	1/4	3/8	0.56	5/16	1-1/16	1-1/16	6250
Q501R-2	3/8	3/8	0.69	7/16	1-1/4	1-1/8	7250
Q501R-2-1	3/8 - 1/4	3/8	0.56	5/16	1-1/4	1-1/8	6250
Q501R-3	1/2	3/8	0.86	1/2	1-5/8	1-1/8	7250
Q501R-3-1	1/2 - 1/4	3/8	0.56	5/16	1-5/8	1-1/8	6250
Q501R-3-2	1/2 - 3/8	3/8	0.69	7/16	1-5/8	1-1/8	7250
Q501R-4	3/4	1/2	1.07	5/8	1-7/8	1-1/8	6500
Q501R-4-1	3/4 - 1/4	3/8	0.56	5/16	1-7/8	1-1/8	6250
Q501R-4-2	3/4 - 3/8	3/8	0.69	7/16	1-7/8	1-1/8	6550
Q501R-4-3	3/4 - 1/2	3/8	0.86	1/2	1-7/8	1-1/8	7250
Q501R-5	1	1/2	1.33	13/16	2-3/16	1-1/4	7250
Q501R-5-1	1 - 1/4	3/8	0.56	5/16	2-3/16	1-1/4	6250
Q501R-5-2	1 - 3/8	3/8	0.69	7/16	2-3/16	1-1/4	7250
Q501R-5-3	1 - 1/2	3/8	0.86	1/2	2-3/16	1-1/4	7250
Q501R-5-4	1 - 3/4	1/2	1.07	5/8	2-3/16	1-1/4	6500
Q501R-6	1-1/4	1/2	1.68	1-3/16	2-5/8	1-3/8	7250
Q501R-6-3	1-1/4 - 1/2	3/8	0.86	1/2	2-5/8	1-3/8	7500
Q501R-6-4	1-1/4 - 3/4	1/2	1.07	5/8	2-5/8	1-3/8	6500
Q501R-6-5	1-1/4 - 1	1/2	1.33	13/16	2-5/8	1-3/8	6550
Q501R-7	1-1/2	1/2	1.92	1-3/8	2-15/16	1-5/8	6250
Q501R-7-4	1-1/2 - 3/4	1/2	1.07	5/8	2-15/16	1-5/8	7250
Q501R-7-5	1-1/2 - 1	1/2	1.33	13/16	2-15/16	1-5/8	7250
Q501R-7-6	1-1/2 - 1-1/4	1/2	1.68	1-3/16	2-15/16	1-5/8	6500
Q501R-8	2	5/8	2.41	1-3/4	3-5/8	1-3/4	6250
Q501R-8-5	2 - 1	1/2	1.33	13/16	3-5/8	1-3/4	7250
Q501R-8-6	2 - 1-1/4	1/2	1.68	1-3/16	3-5/8	1-3/4	6200
Q501R-8-7	2 - 1-1/2	1/2	1.92	1-3/8	3-5/8	1-3/4	6200
Q501R-9	2-1/2	1	2.91	2-1/8	4-5/16	2	6000

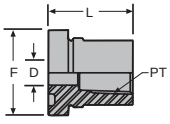
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Female Pipe Tail Piece

Q503R

Union, Tailpiece
Connects male NPT thread to Threaded Piece



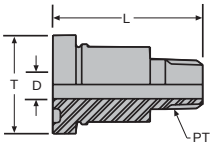
Download CAD Drawing

SSP Part Number	Pipe Size	PT Pipe Thread	D	F	L	SS Working Pressure
Q503R-1	1/4	1/4 - 18	5/16	1-1/16	1-1/16	7250
Q503R-2	3/8	3/8 - 18	7/16	1-1/4	1-1/8	6000
Q503R-2-1	3/8 - 1/4	1/4 - 18	7/16	1-1/4	1-1/8	6250
Q503R-3	1/2	1/2 - 14	1/2	1-5/8	1-5/16	7250
Q503R-3-1	1/2 - 1/4	1/4 - 18	7/16	1-5/8	1-1/8	6250
Q503R-3-2	1/2 - 3/8	3/8 - 18	37/64	1-5/8	1-1/8	7250
Q503R-4	3/4	3/4 - 14	5/8	1-7/8	1-1/2	7500
Q503R-4-1	3/4 - 1/4	1/4 - 18	7/16	1-7/8	1-1/8	6250
Q503R-4-2	3/4 - 3/8	3/8 - 18	37/64	1-7/8	1-1/8	7500
Q503R-4-3	3/4 - 1/2	1/2 - 14	23/62	1-7/8	1-1/8	7500
Q503R-5	1	1 - 11-1/2	13/16	2-3/16	1-11/16	6500
Q503R-5-1	1 - 1/4	1/4 - 18	7/16	2-3/16	1-1/4	6250
Q503R-5-2	1 - 3/8	3/8 - 18	37/64	2-3/16	1-1/4	7250
Q503R-5-3	1 - 1/2	1/2 - 14	23/32	2-3/16	1-1/4	7500
Q503R-5-4	1 - 3/4	3/4 - 14	59/64	2-3/16	1-1/4	7250
Q503R-6	1-1/4	1-1/4 - 11-1/2	1-3/16	2-5/8	1-11/16	5300
Q503R-6-3	1-1/4 - 1/2	1/2 - 14	23/32	2-5/8	1-3/8	7250
Q503R-6-4	1-1/4 - 3/4	3/4 - 14	59/64	2-5/8	1-3/8	6500
Q503R-6-5	1-1/4 - 1	1 - 11-1/2	1-5/32	2-5/8	1-3/8	7250
Q503R-7	1-1/2	1-1/2 - 11-1/2	1-3/8	2-15/16	1-3/4	6500
Q503R-7-4	1-1/2 - 3/4	3/4 - 14	59/64	2-15/16	1-5/8	7500
Q503R-7-5	1-1/2 - 1	1 - 11-1/2	1-5/32	2-15/16	1-5/8	7250
Q503R-7-6	1-1/2 - 1-1/4	1-1/4 - 11-1/2	1-1/2	2-15/16	1-5/8	6250
Q503R-8	2	2 - 11-1/2	1-3/4	3-5/8	1-3/4	3350
Q503R-8-5	2 - 1	1 - 11-1/2	1-5/32	3-5/8	1-3/4	7250
Q503R-8-6	2 - 1-1/4	1-1/4 - 11-1/2	1-1/2	3-5/8	1-3/4	6200
Q503R-8-7	2 - 1-1/2	1-1/2 - 11-1/2	1-47/64	3-5/8	1-3/4	6200

Male Pipe Tail Piece

Q504R

Union, Tailpiece
Connects female NPT thread to Threaded Piece



Download CAD Drawing

SSP Part Number	Pipe Size	PT Pipe Thread	T Thread	D	L	SS Working Pressure
Q504R-1	1/4	1/4 - 18	1 - 1/16	5/16	1-5/8	6000
Q504R-2	3/8	3/8 - 18	1 - 1/4	7/16	1-11/16	5250
Q504R-3	1/2	1/2 - 14	1 - 5/8	1/2	2	6000
Q504R-4	3/4	3/4 - 14	1 - 7/8	5/8	2-1/16	6200
Q504R-5	1	1 - 11 1/2	2 - 3/16	13/16	2-1/4	6000
Q504R-6	1-1/4	1-1/4 - 11-1/2	2 - 5/8	1-3/16	2-9/16	3650
Q504R-7	1-1/2	1-1/2 - 11-1/2	2 - 15/16	1-3/8	2-7/8	5500
Q504R-8	2	2 - 11-1/2	3 - 5/8	1-3/4	2-7/8	4000

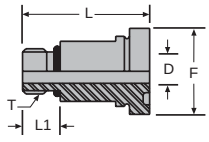
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Male Straight Thread Tail Piece

Q509R

Union, Tailpiece
Connects female SAE/MS straight thread to Threaded Piece



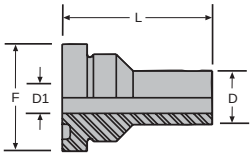
Download CAD Drawing

SSP Part Number	Pipe Size	Tube Size	T Thread	D	F	L	L1	SS Working Pressure
Q509R-0	1/8	1/4	7/16 - 20	11/64	29/32	1-5/16	0.41	9200
Q509R-1	1/4	3/8	9/16 - 18	19/64	1-1/16	1-1/2	0.43	9200
Q509R-2	3/8	1/2	3/4 - 16	25/64	1-1/4	1-3/4	0.47	9200
Q509R-3	1/2	3/4	1-1/16 - 12	1/2	1-5/8	2-1/16	0.63	6000
Q509R-4	3/4	1	1-5/16 - 12	5/8	1-7/8	2-1/8	0.63	6000
Q509R-5	1	1-1/4	1-5/8 - 12	13/16	2-3/16	2-1/4	0.63	6000
Q509R-6	1-1/4	1-1/2	1-7/8 - 12	1-3/16	2-5/8	2-1/2	0.63	4000

Male Pipe Weld Tail Piece

Q602R

Union, Tailpiece
Connects pipe socket to Threaded Piece



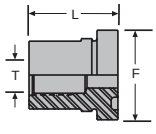
Download CAD Drawing

SSP Part Number	Pipe Size	D	D1	F	L	SS Working Pressure
Q602R-0	1/8	0.41	7/32	29/32	1-3/8	7200
Q602R-1	1/4	0.54	5/16	1-1/16	1-1/2	6250
Q602R-2	3/8	0.68	7/16	1-1/4	1-3/4	5700
Q602R-3	1/2	0.84	1/2	1-5/8	2	6500
Q602R-4	3/4	1.05	5/8	1-7/8	2-1/8	7500
Q602R-5	1	1.32	13/16	2-3/16	2-1/4	7250
Q602R-6	1-1/4	1.66	1-1/8	2-5/8	2-1/2	5850
Q602R-7	1-1/2	1.90	1-5/16	2-15/16	3-3/4	6200
Q602R-8	2	2.38	1-5/8	3-5/8	3-1/8	6200

Female Straight Thread Tail Piece

Q604R

Union, Tailpiece
Connects male SAE/MS straight thread to Threaded Piece



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	F	L	SS Working Pressure
Q604R-1-0	1/4	7/16 - 20	1-1/16	1-1/16	7250
Q604R-2-1	3/8	9/16 - 18	1-1/4	1-1/8	6500
Q604R-3-2	1/2	3/4 - 16	1-5/8	1-5/16	6250
Q604R-4-3	3/4	1-1/16 - 12	1-7/8	1-1/2	6500
Q604R-5-4	1	1-5/16 - 12	2-3/16	1-11/16	3400
Q604R-6-5	1-1/4	1-5/8 - 12	2-5/8	1-11/16	2850

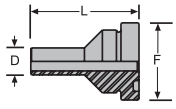
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Male Standpipe Tail Piece

Q603R

Union, Tailpiece
Connects fractional port or tube socket to Threaded Piece



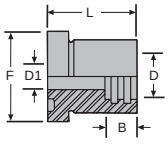
Download CAD Drawing

SSP Part Number	Tube Size	D	F	L	SS Working Pressure
Q603R-0	1/4	0.25	29/32	1-3/8	6000
Q603R-1	3/8	0.38	1-1/16	1-1/2	6000
Q603R-2	1/2	0.50	1-1/4	1-3/4	6000
Q603R-3	3/4	0.75	1-5/8	2	5800
Q603R-4	1	1.00	1-7/8	2-1/8	4700
Q603R-5	1-1/4	1.25	2-3/16	2-1/4	4900
Q603R-6	1-1/2	1.50	2-5/8	2-1/2	4900
Q603R-7	2	2.00	2-15/16	2-3/4	3600

Braze Groove Tail Piece

Q502R

Union, Tailpiece
Connects fractional tube to Threaded Piece



Download CAD Drawing

SSP Part Number	Pipe Size	B	D	D1	F	L	SS Working Pressure
Q502R-0	1/8	3/8	0.41	7/32	29/32	11/16	6500
Q502R-1	1/4	3/8	0.54	5/16	1-1/16	1-1/16	7200
Q502R-2	3/8	15/32	0.68	7/16	1-1/4	1-1/8	6200
Q502R-2-1	3/8 - 1/4	3/8	0.54	5/16	1-1/4	1-1/8	7200
Q502R-3	1/2	9/16	0.84	1/2	1-5/8	1-1/8	7500
Q502R-3-1	1/2 - 1/4	3/8	0.54	5/16	1-5/8	1-1/8	7200
Q502R-3-2	1/2 - 3/8	15/32	0.68	7/16	1-5/8	1-1/8	7500
Q502R-4	3/4	11/16	1.05	5/8	1-7/8	1-1/8	7200
Q502R-4-1	3/4 - 1/4	3/8	0.54	5/16	1-7/8	1-1/8	7200
Q502R-4-2	3/4 - 3/8	15/32	0.68	7/16	1-7/8	1-1/8	7250
Q502R-4-3	3/4 - 1/2	9/16	0.84	1/2	1-7/8	1-1/8	7500
Q502R-5	1	13/16	1.32	13/16	2-3/16	1-1/4	7250
Q502R-5-1	1 - 1/4	3/8	0.54	5/16	2-3/16	1-1/4	7200
Q502R-5-2	1 - 3/8	15/32	0.68	7/16	2-3/16	1-1/4	7500
Q502R-5-3	1 - 1/2	9/16	0.84	1/2	2-3/16	1-1/4	7500
Q502R-5-4	1 - 3/4	11/16	1.05	5/8	2-3/16	1-1/4	7250
Q502R-6	1-1/4	15/16	1.66	1-3/16	2-5/8	1-3/8	6350
Q502R-6-3	1-1/4 - 1/2	9/16	0.84	1/2	2-5/8	1-3/8	7500
Q502R-6-4	1-1/4 - 3/4	11/16	1.05	5/8	2-5/8	1-3/8	7250
Q502R-6-5	1-1/4 - 1	13/16	1.32	13/16	2-5/8	1-3/8	7250
Q502R-7	1-1/2	1-1/16	1.91	1-3/8	2-15/16	1-5/8	4950
Q502R-7-4	1-1/2 - 3/4	11/16	1.05	5/8	2-15/16	1-5/8	7500
Q502R-7-5	1-1/2 - 1	13/16	1.32	13/16	2-15/16	1-5/8	7500
Q502R-7-6	1-1/2 - 1-1/4	15/16	1.66	1-3/16	2-15/16	1-5/8	7250
Q502R-8	2	1-1/4	2.38	1-3/4	3-5/8	1-3/4	5400
Q502R-8-5	2 - 1	13/16	1.32	13/16	3-5/8	1-3/4	7500
Q502R-8-6	2 - 1-1/4	15/16	1.66	1-3/16	3-5/8	1-3/4	7250
Q502R-8-7	2 - 1-1/2	1-1/16	1.10	1-3/8	3-5/8	1-3/4	6500

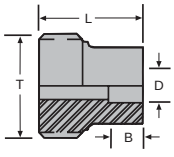
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Tube Socket Threaded Piece

Q408T

Union, Threaded Piece
Connects fractional tube or standpipe to Tail Piece



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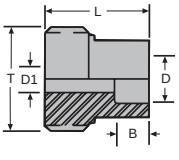
SSP Part Number	Tube O.D.	T Thread	B	D	L	SS Working Pressure
Q408T-0	1/4	1 - 14	3/8	0.25	7/8	7250
Q408T-1	3/8	1-3/16 - 12	3/8	0.38	1-3/16	6550
Q408T-2	1/2	1-3/8 - 12	7/16	0.50	1-1/4	6700
Q408T-3	3/4	1-3/4 - 12	1/2	0.75	1-5/16	-
Q408T-4	1	2 - 12	9/16	1.00	1-5/16	-
Q408T-5	1-1/4	2-5/16 - 12	5/8	1.25	1-9/16	4900
Q408T-6	1-1/2	2-3/4 - 12	11/16	1.50	1-11/16	4900
Q408T-7	2	3-1/16 - 12	3/4	2.00	2	-

Pipe Socket Weld Threaded Piece

Q501T

Union, Threaded Piece
Connects pipe to Threaded Piece



Download CAD Drawing

SSP Part Number	Pipe Size	T Thread	B	D	D1	L	SS Working Pressure
Q501T-0	1/8	1 - 14	3/8	0.42	7/32	7/8	6500
Q501T-1	1/4	1-3/16 - 12	3/8	0.56	5/16	1-3/16	6000
Q501T-2	3/8	1-3/8 - 12	3/8	0.69	7/16	1-1/4	7250
Q501T-2-1	3/8 - 1/4	1-3/8 - 12	3/8	0.54	5/16	1-1/4	6200
Q501T-3	1/2	1-3/4 - 12	3/8	0.86	1/2	1-5/16	7250
Q501T-3-1	1/2 - 1/4	1-3/4 - 12	3/8	0.54	5/16	1-5/16	6200
Q501T-3-2	1/2 - 3/8	1-3/4 - 12	15/32	0.68	7/16	1-5/16	7250
Q501T-4	3/4	2 - 12	1/2	1.07	5/8	1-5/16	6500
Q501T-4-1	3/4 - 1/4	2 - 12	3/8	0.54	5/16	1-5/16	6250
Q501T-4-2	3/4 - 3/8	2 - 12	15/32	0.68	7/16	1-5/16	7250
Q501T-4-3	3/4 - 1/2	2 - 12	9/16	0.84	1/2	1-5/16	7500
Q501T-5	1	2-5/16 - 12	1/2	1.33	13/16	1-9/16	6500
Q501T-5-1	1 - 1/4	2-5/16 - 12	3/8	0.54	5/16	1-9/16	6250
Q501T-5-2	1 - 3/8	2-5/16 - 12	15/32	0.68	7/16	1-9/16	6550
Q501T-5-3	1 - 1/2	2-5/16 - 12	3/8	0.84	1/2	1-9/16	7200
Q501T-5-4	1 - 3/4	2-5/16 - 12	11/16	1.05	5/8	1-9/16	6550
Q501T-6	1-1/4	2-3/4 - 12	1/2	1.68	1-3/16	1-11/16	6250
Q501T-6-3	1-1/4 - 1/2	2-3/4 - 12	9/16	0.84	1/2	1-11/16	7200
Q501T-6-4	1-1/4 - 3/4	2-3/4 - 12	11/16	1.05	5/8	1-11/16	6550
Q501T-6-5	1-1/4 - 1	2-3/4 - 12	13/16	1.32	13/16	1-11/16	6500
Q501T-7	1-1/2	3-1/16 - 12	1/2	1.92	1-3/8	2	6250
Q501T-7-4	1-1/2 - 3/4	1/16 - 12	11/16	1.05	5/8	2	6550
Q501T-7-5	1-1/2 - 1	3-1/16 - 12	13/16	1.32	13/16	2	6550
Q501T-7-6	1-1/2 - 1-1/4	3-1/16 - 12	15/16	1.66	1-3/16	2	6250
Q501T-8	2	3-3/4 - 12	5/8	2.41	1-3/4	2-1/8	7250
Q501T-8-5	2 - 1	3-3/4 - 12	13/16	1.32	13/16	2-1/8	7250
Q501T-8-6	2 - 1-1/4	3-3/4 - 12	15/16	1.66	1-3/16	2-1/8	6500
Q501T-8-7	2 - 1-1/2	3-3/4 - 12	1-1/16	1.10	1-3/8	2-1/8	6250
Q501T-9	2-1/2	4-1/2 - 12	1	2.91	2-1/8	2-9/16	6100

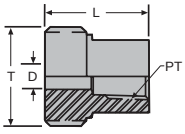
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Female Pipe Threaded Piece

Q503T

Union, Threaded Piece
Connects male NPT thread to Tail Piece



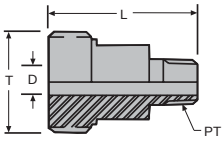
Download CAD Drawing

SSP Part Number	Pipe Size	PT Pipe Thread	T Thread	D	L	SS Working Pressure
Q503T-1	1/4	1/4 - 18	1-3/16 - 12	5/16	1-1/4	6250
Q503T-2	3/8	3/8 - 18	1-3/8 - 12	7/16	1-5/16	7250
Q503T-2-1	3/8 - 1/4	1/4 - 18	1-3/8 - 12	7/16	1-1/4	6500
Q503T-3	1/2	1/2 - 14	1-3/4 - 12	1/2	1-1/2	7250
Q503T-3-1	1/2 - 1/4	1/4 - 18	1-3/4 - 12	37/64	1-5/16	6250
Q503T-3-2	1/2 - 3/8	3/8 - 18	1-3/4 - 12	1/2	1-5/16	7250
Q503T-4	3/4	3/4 - 14	2 - 12	5/8	1-11/16	7250
Q503T-4-1	3/4 - 1/4	1/4 - 18	2 - 12	7/16	1-5/16	6250
Q503T-4-2	3/4 - 3/8	3/8 - 18	2 - 12	37/64	1-5/16	7250
Q503T-4-3	3/4 - 1/2	1/2 - 14	2 - 12	23/32	1-5/16	7500
Q503T-5	1	1 - 11-1/2	2-5/16 - 12	13/16	2	6850
Q503T-5-1	1 - 1/4	1/4 - 18	2-5/16 - 12	7/16	1-9/16	6250
Q503T-5-2	1 - 3/8	3/8 - 18	2-5/16 - 12	37/64	1-9/16	7250
Q503T-5-3	1 - 1/2	1/2 - 14	2-5/16 - 12	23/62	1-9/16	7500
Q503T-5-4	1 - 3/4	3/4 - 14	2-5/16 - 12	59/64	1-9/16	7250
Q503T-6	1-1/4	1-1/4 - 11-1/2	2-3/4 - 12	1-3/16	2	6550
Q503T-6-3	1-1/4 - 1/2	1/2 - 14	2-3/4 - 12	23/32	1-11/16	7500
Q503T-6-4	1-1/4 - 3/4	3/4 - 14	2-3/4 - 12	59/64	1-11/16	7250
Q503T-6-5	1-1/4 - 1	1 - 11-1/2	2-3/4 - 12	1-5/32	1-11/16	7250
Q503T-7	1-1/2	1-1/2 - 11-1/2	3-1/16 - 12	1-3/8	2-1/8	6250
Q503T-7-4	1-1/2 - 3/4	3/4 - 14	3-1/16 - 12	59/64	2	7500
Q503T-7-5	1-1/2 - 1	1 - 11-1/2	3-1/16 - 12	1-5/32	2	7250
Q503T-7-6	1-1/2 - 1-1/4	1-1/4 - 11-1/2	3-1/16 - 12	1-1/2	2	6550
Q503T-8	2	2 - 11-1/2	3-3/4 - 12	1-3/4	2-1/8	6000
Q503T-8-5	2 - 1	1 - 11-1/2	3-3/4 - 12	1-5/32	2	7250
Q503T-8-6	2 - 1-1/4	1-1/4 - 11-1/2	3-3/4 - 12	1-1/2	2	6250
Q503T-8-7	2 - 1-1/2	1-1/2 - 11-1/2	3-3/4 - 12	1-47/64	2	6250

Male Pipe Threaded Piece

Q504T

Union, Threaded Piece
Connects female NPT thread to Tail Piece



Download CAD Drawing

SSP Part Number	Pipe Size	PT Pipe Thread	T Thread	D	L	SS Working Pressure
Q504T-1	1/4	1/4 - 18	1-3/16 - 12	5/16	1-3/4	6500
Q504T-2	3/8	3/8 - 18	1-3/8 - 12	7/16	1-7/8	5250
Q504T-3	1/2	1/2 - 14	1-3/4 - 12	1/2	2	6250
Q504T-4	3/4	3/4 - 14	2 - 12	5/8	2-1/4	6250
Q504T-5	1	1 - 11-1/2	2-5/16 - 12	13/16	2-1/2	6250
Q504T-6	1-1/4	1-1/4 - 11-1/2	2-3/4 - 12	1-1/8	2-7/8	5250
Q504T-7	1-1/2	1-1/2 - 11-1/2	1/16 - 12	1-5/16	3-1/4	5250
Q504T-8	2	2 - 11-1/2	3-3/4 - 12	1-5/8	3-1/4	3850

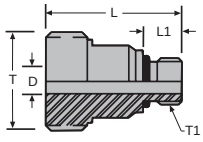
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Male Straight Thread Threaded Piece

Q509T

Union, Threaded Piece
Connects female SAE/MS straight thread to Tail Piece



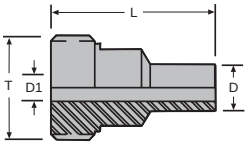
Download CAD Drawing

SSP Part Number	Tube O.D.	Pipe Size	T Thread	T1 Thread	D	L	L1
Q509T-0	1/4	1/8	1 - 14	7/16 - 20	11/64	1-7/16	0.41
Q509T-1	3/8	1/4	1-3/16 - 12	9/16 - 18	19/64	1-9/16	0.43
Q509T-2	1/2	3/8	1-3/8 - 12	3/4 - 16	25/64	1-11/16	0.47
Q509T-3	3/4	1/2	1-3/4 - 12	1-1/16 - 12	1/2	1-15/16	0.63
Q509T-4	1	3/4	2 - 12	1-5/16 - 12	5/8	2-1/16	0.63
Q509T-5	1-1/4	1	2-5/16 - 12	1-5/16 - 12	13/16	2-3/16	0.63
Q509T-6	1-1/2	1-1/4	2-3/4 - 12	1-7/8 - 12	1-3/16	2-3/8	0.63
Q509T-7	2	1-1/2	3-1/16 - 12	2-1/2 - 12	1-3/8	2-9/16	0.63

Male Pipe Weld Threaded Piece

Q602T

Union, Threaded Piece
Connects pipe socket to Tail Piece



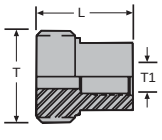
Download CAD Drawing

SSP Part Number	Pipe Size	T Thread	D	D1	L	SS Working Pressure
Q602T-0	1/8	1 - 14	0.41	7/32	1-5/8	6000
Q602T-1	1/4	1-3/16 - 12	0.54	5/16	1-7/8	6500
Q602T-2	3/8	1-3/8 - 12	0.68	7/16	2-1/16	5700
Q602T-3	1/2	1-3/4 - 12	0.84	1/2	2-5/16	6250
Q602T-4	3/4	2 - 12	1.05	5/8	2-9/16	7250
Q602T-5	1	2-5/16 - 12	1.32	13/16	2-13/16	7200
Q602T-6	1-1/4	2-3/4 - 12	1.66	1-1/8	3-1/8	6500
Q602T-7	1-1/2	3-1/16 - 12	1.90	1-5/16	3-1/2	6550
Q602T-8	2	3-3/4 - 12	2.38	1-5/8	3-7/8	6500

Female Straight Thread Threaded Piece

Q604T

Union, Threaded Piece
Connects male SAE/MS straight thread to Tail Piece



Download CAD Drawing

SSP Part Number	Tube Size	T Thread	T1 Thread	L	SS Working Pressure
Q604T-0-0	1/4	1 - 14	7/16 - 20	7/8	6500
Q604T-1-0	1/4	1-3/16 - 12	7/16 - 20	1-1/4	7250
Q604T-1-1	3/8	1-3/16 - 12	9/16 - 18	1-1/4	6150
Q604T-2-1	3/8	1-3/8 - 12	9/16 - 18	1-5/16	6550
Q604T-2-2	1/2	1-3/8 - 12	3/4 - 16	1-5/16	3650
Q604T-3-2	1/2	1-3/4 - 12	3/4 - 16	1-1/2	6250
Q604T-3-3	3/4	1-3/4 - 12	1-1/16 - 12	1-1/2	6250
Q604T-4-3	3/4	2 - 12	1-1/16 - 12	1-11/16	5150
Q604T-4-4	1	2 - 12	1-5/16 - 12	1-11/16	-
Q604T-5-4	1	2-5/16 - 12	1-5/16 - 12	2	1550
Q604T-5-5	1-1/4	2-5/16 - 12	1-5/8 - 12	2	-
Q604T-6-5	1-1/4	2-3/4 - 12	1-5/8 - 12	2	1550
Q604T-6-6	1-1/2	2-3/4 - 12	1-7/8 - 12	2	6050
Q604T-7-6	1-1/2	3-1/16 - 12	1-7/8 - 12	2-1/8	6500
Q604T-7-7	2	1/16 - 12	2-1/2 - 12	2-1/8	-
Q604T-8-7	2	3-3/4 - 12	2-1/2 - 12	2-1/8	3900

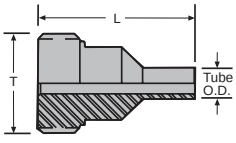
Pressure Ratings Based on ASME B31.3 Power Piping Code

Soft-Seal, High Pressure Union

Male Standpipe Threaded Piece

Q603T

Union, Threaded Piece
Connects fractional port or tube socket to Tail Piece



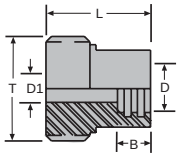
Download CAD Drawing

SSP Part Number	Tube Size	Tube O.D.	T Thread	L	SS Working Pressure
Q603T-0	1/4	0.25	1 - 14	1-5/8	-
Q603T-1	3/8	0.38	1-3/16 - 12	1-7/8	6550
Q603T-2	1/2	0.50	1-3/8 - 12	2-1/16	6000
Q603T-3	3/4	0.75	1-3/4 - 12	2-5/16	5250
Q603T-4	1	1.00	2 - 12	2-9/16	4700
Q603T-5	1-1/4	1.25	2-5/16 - 12	2-13/16	4900
Q603T-6	1-1/2	1.50	2-3/4 - 12	3-1/8	4900
Q603T-7	2	2.00	3-1/16 - 12	3-1/2	3600

Braze Groove Threaded Piece

Q502T

Union, Threaded Piece
Connects fractional tube to Tail Piece



Download CAD Drawing

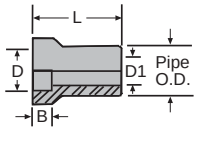
SSP Part Number	Pipe Size	T Thread	B	D	D1	L	SS Working Pressure
Q502T-0	1/8	1 - 14	3/8	0.41	7/32	7/8	6550
Q502T-1	1/4	1-3/16 - 12	3/8	0.54	5/16	1-3/16	6000
Q502T-2	3/8	1-3/8 - 12	15/32	0.68	7/16	1-1/4	5700
Q502T-3	1/2	1-3/4 - 12	9/16	0.84	1/2	1-5/16	6000
Q502T-4	3/4	2 - 12	11/16	1.05	5/8	1-7/16	7550
Q502T-5	1	2-5/16 - 12	13/16	1.32	13/16	1-3/4	7250
Q502T-6	1-1/4	2-3/4 - 12	15/16	1.66	1-3/16	1-15/16	6250
Q502T-7	1-1/2	3-1/16 - 12	1-1/16	1.91	1-3/8	2-5/16	6550
Q502T-8	2	3-3/4 - 12	1-1/4	2.38	1-3/4	2-1/2	6000

Reducing Fittings are also available. Please consult Factory.

Reducing Insert

Q507R

Component
Connects smaller pipe to larger pipe socket



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SSP Part Number	Pipe O.D.	Pipe Size	B	D	D1	L
Q507R-2-1	0.68	3/8 - 1/4	3/8	0.56	5/16	1-5/16
Q507R-3-1	0.84	1/2 - 1/4	3/8	0.56	5/16	1-1/2
Q507R-3-2	0.84	1/2 - 3/8	7/16	0.69	7/16	1-5/8
Q507R-4-1	1.05	3/4 - 1/4	3/8	0.56	5/16	1-9/16
Q507R-4-2	1.05	3/4 - 3/8	7/16	0.69	7/16	1-5/8
Q507R-4-3	1.05	3/4 - 1/2	1/2	0.86	1/2	2-1/16
Q507R-5-1	1.32	1 - 1/4	3/8	0.56	5/16	1-5/8
Q507R-5-2	1.32	1 - 3/8	7/16	0.69	7/16	1-11/16
Q507R-5-3	1.32	1 - 1/2	1/2	0.86	1/2	1-3/4
Q507R-5-4	1.32	1 - 3/4	9/16	1.07	5/8	2-3/16
Q507R-6-3	1.66	1-1/4 - 1/2	1/2	0.86	1/2	1-7/8
Q507R-6-4	1.66	1-1/4 - 3/4	9/16	1.07	5/8	1-15/16
Q507R-6-5	1.66	1-1/4 - 1	5/8	1.33	13/16	2-7/16
Q507R-7-4	1.90	1-1/2 - 3/4	9/16	1.07	5/8	1-7/8
Q507R-7-5	1.90	1-1/2 - 1	5/8	1.33	13/16	2
Q507R-7-6	1.90	1-1/2 - 1-1/4	11/16	1.68	1-3/16	2-11/16
Q507R-8-5	2.38	2 - 1	5/8	1.33	13/16	2-1/4
Q507R-8-6	2.38	2 - 1-1/4	11/16	1.68	1-3/16	2-3/8
Q507R-8-7	2.38	2 - 1-1/2	3/4	1.92	1-3/8	2-13/16

Pressure Ratings Based on ASME B31.3 Power Piping Code

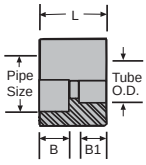
Soft-Seal, High Pressure Union

Tube to Pipe Socket Coupling

Q1007

Component

Connects pipe to Fractional Tube



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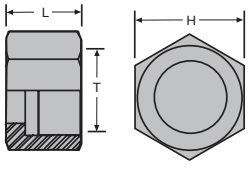
SSP Part Number	Pipe Size IPS	Tube O.D.	B	B1	L
Q1007R-4-4	1/4	1/4	3/8	1/4	7/8
Q1007R-4-6	1/4	3/8	3/8	1/4	7/8
Q1007R-4-8	1/4	1/2	3/8	3/8	7/8
Q1007R-6-4	3/8	1/4	3/8	1/4	15/16
Q1007R-6-6	3/8	3/8	3/8	1/4	15/16
Q1007R-6-8	3/8	1/2	3/8	3/8	15/16
Q1007R-6-10	3/8	5/8	3/8	3/8	15/16
Q1007R-6-12	3/8	3/4	3/8	7/16	15/16
Q1007R-8-4	1/2	1/4	7/16	1/4	1
Q1007R-8-6	1/2	3/8	7/16	1/4	1
Q1007R-8-8	1/2	1/2	7/16	3/8	1
Q1007R-8-10	1/2	5/8	7/16	3/8	1
Q1007R-8-12	1/2	3/4	7/16	7/16	1
Q1007R-12-6	3/4	3/8	1/2	1/4	1-3/16
Q1007R-12-8	3/4	1/2	1/2	3/8	1-3/16
Q1007R-12-10	3/4	5/8	1/2	3/8	1-3/16
Q1007R-12-12	3/4	3/4	1/2	7/16	1-3/16
Q1007R-12-16	3/4	1	1/2	1/2	1-3/16
Q1007R-16-8	1	1/2	9/16	3/8	1-5/16
Q1007R-16-10	1	5/8	9/16	3/8	1-5/16
Q1007R-16-12	1	3/4	9/16	7/16	1-5/16
Q1007R-16-16	1	1	9/16	1/2	1-5/16
Q1007R-16-20	1	1-1/4	9/16	9/16	1-5/16
Q1007R-20-16	1-1/4	1	9/16	9/16	1-5/16

Union Nut

Q500N

Component



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SSP Part Number	Tube Size	Pipe Size	T Thread	H	L
Q500N-0	1/4	1/8	1 - 14NS	1-3/16	3/4
Q500N-1	3/8	1/4	1-3/16 - 12UN	1-3/8	1
Q500N-2	1/2	3/8	1-3/8 - 12UNF	1-5/8	1-1/16
Q500N-3	3/4	1/2	1-3/4 - 12UN	2	1-1/16
Q500N-4	1	3/4	2 - 12UN	2-1/4	1-1/16
Q500N-5	1-1/4	1	2-5/16 - 12NS	2-5/8	1-3/16
Q500N-6	1-1/2	1-1/4	2-3/4 - 12UN	3	1-1/4
Q500N-7	2	1-1/2	3-1/16 - 12NS	3-1/2	1-1/2
Q500N-8		2	3-3/4 - 12UN	4-1/8	1-1/2
Q500N-9		2-1/2	4-1/2 - 12UN	5-1/8	1-7/8

Pressure Ratings Based on ASME B31.3 Power Piping Code

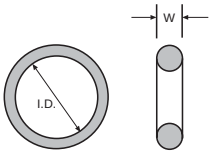
Soft-Seal, High Pressure Union

Face Seal O-Ring

Q

Component

SSP Part Number	Part Number Viton	Tube O.D.	Pipe Size	I.D.	O.D.	W Width
Q0R	Q0VR	1/4	1/8	3/8	1/2	1/16
Q1R	Q1VR	3/8	1/4	5/8	13/16	3/32
Q2R	Q2VR	1/2	3/8	3/4	1	1/8
Q3R	Q3VR	3/4	1/2	7/8	1-1/8	1/8
Q4R	Q4VR	1	3/4	1	1-1/4	1/8
Q5R	Q5VR	1-1/4	1	1-3/16	1-7/16	1/8
Q6R	Q6VR	1-1/2	1-1/4	1-1/2	1-3/4	1/8
Q7R	Q7VR	2	1-1/2	1-3/4	2	1/8
Q8R	Q8VR		2	2-1/8	2-3/8	1/8
Q9R	Q9VR		2-1/2	2-3/8	2-5/8	1/8



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Buna is standard material

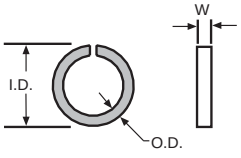
Braze Ring

BR

Component

Silbraze ring for tube socket

SSP Part Number	Tube O.D.	I.D.	O.D.	W Width
4BR	1/4	0.05	0.26	0.09
6BR	3/8	0.07	0.39	0.09
8BR	1/2	0.07	0.52	0.09
10BR	5/8	0.07	0.64	0.09
12BR	3/4	0.08	0.76	0.09
16BR	1	0.08	1.02	0.09
20BR	1-1/4	0.08	1.26	0.09
24BR	1-1/2	0.08	1.52	0.09



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Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

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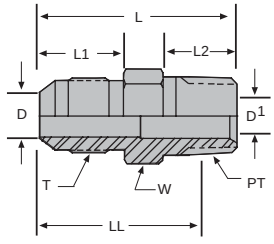


Male Connector

J-C

Tube to Male Pipe

Connects fractional or metric flared tube to female NPT thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Hex	SS Working Pressure	Monel Working Pressure	Brass Working Pressure
J2C	1/8	5/16 - 24	1/8 - 27	0.06	0.19	1.11	0.45	0.38	0.87	7/16	6000		
J3C	3/16	3/8 - 24	1/8 - 27	0.13	0.19	1.14	0.48	0.38	0.90	7/16	6000		
J4C	1/4	7/16 - 20	1/8 - 27	0.17	0.17	1.22	0.55	0.38	0.98	1/2	6000	5610	3250
J4-4C	1/4	7/16 - 20	1/4 - 18	0.17	0.17	1.42	0.55	0.56	1.08	9/16	6000	5610	3250
J4-6C	1/4	7/16 - 20	3/8 - 18	0.17	0.17	1.44	0.55	0.56	1.09	3/4	6000		
J4-8C	1/4	7/16 - 20	1/2 - 14	0.17	0.17	1.69	0.55	0.75	1.23	7/8	6000		
J5C	5/16	1/2 - 20	1/8 - 27	0.23	0.19	1.22	0.55	0.38	0.98	9/16	6000		
J5-4C	5/16	1/2 - 20	1/4 - 18	0.23	0.23	1.42	0.55	0.56	1.08	9/16	6000		
J6C	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.43	0.56	0.56	1.09	5/8	6000	5610	3250
J6-2C	3/8	9/16 - 18	1/8 - 27	0.30	0.19	1.24	0.56	0.38	1.00	5/8	6000	5610	
J6-6C	3/8	9/16 - 18	3/8 - 18	0.30	0.30	1.44	0.56	0.56	1.09	3/4	6000	5610	3250
J6-8C	3/8	9/16 - 18	1/2 - 14	0.30	0.30	1.69	0.56	0.75	1.23	7/8	6000		
J8C	1/2	3/4 - 16	3/8 - 18	0.39	0.39	1.53	0.66	0.56	1.18	13/16	6000	5610	3250
J8-4C	1/2	3/4 - 16	1/4 - 18	0.39	0.19	1.53	0.66	0.56	1.19	13/16	6000	5610	
J8-8C	1/2	3/4 - 16	1/2 - 14	0.39	0.39	1.78	0.66	0.75	1.32	7/8	6000	5610	3250
J8-12C	1/2	3/4 - 16	3/4 - 14	0.39	0.39	1.85	0.66	0.75	1.37	1-1/8	4800		
J10C	5/8	7/8 - 14	1/2 - 14	0.48	0.48	1.89	0.76	0.75	1.43	15/16	6000		
J10-12C	5/8	7/8 - 14	3/4 - 14	0.48	0.48	1.95	0.76	0.75	1.47	1-1/8	4800		
J12C	3/4	1-1/16 - 12	3/4 - 14	0.61	0.61	2.06	0.86	0.75	1.58	1-1/8	4800	4488	2600
J12-8C	3/4	1-1/16 - 12	1/2 - 14	0.61	0.53	2.06	0.86	0.75	1.60	1-1/8	5400	5049	
J12-16C	3/4	1-1/16 - 12	1 - 11-1/2	0.61	0.61	2.25	0.86	0.94	1.68	1-3/8	3600	3366	
J14C	7/8	1-3/16 - 12	3/4 - 14	0.72	0.72	2.09	0.89	0.75	1.61	1-1/4	4200		
J16C	1	1-5/16 - 12	1 - 11-1/2	0.84	0.84	2.30	0.91	0.94	1.73	1-3/8	3600	3366	1950
J16-12C	1	1-5/16 - 12	3/4 - 14	0.84	0.72	2.11	0.91	0.75	1.63	1-3/8	4200	3927	
J20C	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.08	2.45	0.96	0.97	1.86	1-11/16	3000	2805	
J24C	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	1.31	2.68	1.08	1.00	2.09	2	2400	2244	
J32C	2	2-1/2 - 12	2 - 11-1/2	1.78	1.78	3.11	1.33	1.03	2.50	2-5/8	1800		

Pressure Ratings Based on ASME B31.3 Power Piping Code

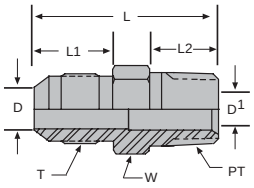
SAE 37° Flared

BSPT Male Connector

J-C-BSPT

Tube to Male Pipe

Connects fractional or metric flared tube to female ISO tapered thread



SSP Part Number	Tube O.D.	Tube O.D. (mm)	T Thread	PT Pipe Thread BSPT	D Through Hole	D1 Through Hole	L	L1	L2	W Hex
J4C-BT	1/4	6	7/16 - 20	1/8 - 28	0.17	0.17	1.22	0.55	0.39	7/16
J4-4C-BT	1/4	6	7/16 - 20	1/4 - 19	0.17	0.17	1.42	0.55	0.57	7/16
J6C-BT	3/8	10	9/16 - 18	1/4 - 19	0.30	0.28	1.43	0.56	0.57	9/16
J6-6C-BT	3/8	10	9/16 - 18	3/8 - 19	0.30	0.28	1.43	0.56	0.57	9/16
J8C-BT	1/2	12	3/4 - 16	3/8 - 19	0.39	0.39	1.53	0.66	0.57	3/4
J8-8C-BT	1/2	12	3/4 - 16	1/2 - 14	0.39	0.39	1.79	0.66	0.76	7/8
J10C-BT	5/8	14	7/8 - 14	1/2 - 14	0.48	0.48	1.89	0.76	0.76	7/8
J12C-BT	3/4	18	1-1/16 - 12	3/4 - 14	0.61	0.61	2.06	0.86	0.76	1-1/16
J16C-BT	1	25	1-5/16 - 12	1 - 11	0.84	0.84	2.30	0.91	0.94	1-5/16
J20C-BT	1-1/4	32	1-5/8 - 12	1-1/4 - 11	1.08	1.08	2.45	0.96	0.98	1-5/8
J24C-BT	1-1/2	38	1-7/8 - 12	1-1/2 - 11	1.31	1.31	2.68	1.08	1.01	1-7/8

ISO 7/1, DIN 2999, JIS B0203, BS 21

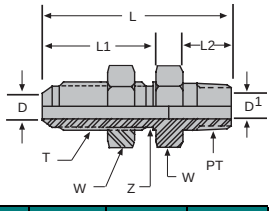
Male Bulkhead Connector

Download CAD Drawing

J-BC

Tube to Male Pipe

Connects fractional or metric flared tube to female NPT thread



SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Hex	Z	SS Working Pressure
J2BC	1/8	5/16 - 24	1/8 - 27	0.06	0.06	1.80	1.11	0.38	9/16	0.31	6000
J3BC	3/16	3/8 - 24	1/8 - 27	0.13	0.13	1.81	1.11	0.38	5/8	0.38	6000
J4BC	1/4	7/16 - 20	1/8 - 27	0.17	0.17	1.90	1.20	0.38	11/16	0.44	6000
J4-4BC	1/4	7/16 - 20	1/4 - 18	0.17	0.17	2.10	1.20	0.56	11/16	0.44	6000
J5BC	5/16	1/2 - 20	1/8 - 27	0.23	0.23	1.91	1.20	0.38	3/4	0.50	6000
J6BC	3/8	9/16 - 18	1/4 - 18	0.30	0.28	2.19	1.28	0.56	13/16	0.56	6000
J6-6BC	3/8	9/16 - 18	3/8 - 18	0.30	0.30	2.19	1.28	0.56	13/16	0.56	6000
J8BC	1/2	3/4 - 16	3/8 - 18	0.39	0.39	2.36	1.44	0.56	1	0.75	6000
J8-8BC	1/2	3/4 - 16	1/2 - 14	0.39	0.39	2.55	1.44	0.75	1	0.75	6000
J10BC	5/8	7/8 - 14	1/2 - 14	0.48	0.48	2.74	1.58	0.75	1-1/8	0.88	6000
J12BC	3/4	1-1/16 - 12	3/4 - 14	0.61	0.61	2.98	1.75	0.75	1-3/8	1.06	4800
J14BC	7/8	1-3/16 - 12	1 - 11-1/2	0.72	0.72	2.98	1.75	0.75	1-1/2	1.19	4200
J16BC	1	1-5/16 - 12	1 - 11-1/2	0.84	0.84	3.18	1.75	0.94	1-5/8	1.31	3600
J20BC	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.08	3.33	1.80	0.97	1-7/8	1.62	3000
J24BC	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	1.31	3.45	1.81	1.00	2-1/8	1.87	2400
J32BC	2	2-1/2 - 12	2 - 11-1/2	1.78	1.78	3.90	2.09	1.03	2-3/4	2.49	1800

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

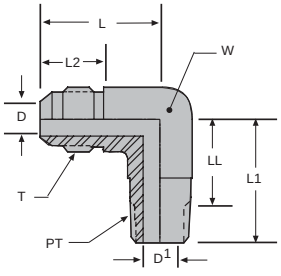
Pressure Ratings Based on ASME B31.3 Power Piping Code

Male Elbow

J-ME

Tube to Male Pipe

Connects fractional or metric flared tube to female NPT thread



Download CAD Drawing

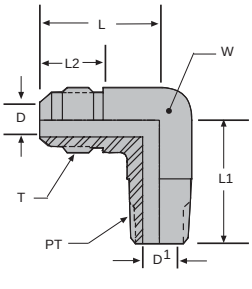
SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat
J2ME	1/8	5/16 - 24	1/8 - 27	0.06	0.19	0.77	0.72	0.43	0.48	7/16
J3ME	3/16	3/8 - 24	1/8 - 27	0.13	0.19	0.83	0.72	0.46	0.48	7/16
J4ME	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	0.78	0.54	0.54	7/16
J4-4ME	1/4	7/16 - 20	1/4 - 18	0.17	0.28	1.05	1.09	0.54	0.75	9/16
J4-6ME	1/4	7/16 - 20	3/8 - 18	0.17	0.41	1.13	1.22	0.54	0.87	3/4
J4-8ME	1/4	7/16 - 20	1/2 - 14	0.17	0.53	1.23	1.44	0.54	0.98	7/8
J5ME	5/16	1/2 - 20	1/8 - 27	0.23	0.19	0.95	0.78	0.54	0.54	9/16
J5-4ME	5/16	1/2 - 20	1/4 - 18	0.23	0.28	1.05	1.09	0.54	0.75	9/16
J6ME	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	1.09	0.54	0.75	9/16
J6-2ME	3/8	9/16 - 18	1/8 - 27	0.30	0.19	1.06	0.90	0.54	0.66	9/16
J6-6ME	3/8	9/16 - 18	3/8 - 18	0.30	0.41	1.14	1.22	0.54	0.87	3/4
J6-8ME	3/8	9/16 - 18	1/2 - 14	0.30	0.53	1.22	1.47	0.54	1.01	7/8
J8ME	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	1.22	0.64	0.87	3/4
J8-4ME	1/2	3/4 - 16	1/4 - 18	0.39	0.28	1.25	1.22	0.64	0.88	3/4
J8-8ME	1/2	3/4 - 16	1/2 - 14	0.39	0.53	1.33	1.47	0.64	1.01	7/8
J8-12ME	1/2	3/4 - 16	3/4 - 14	0.39	0.72	1.42	1.59	0.64	1.11	1-1/16
J10ME	5/8	7/8 - 14	1/2 - 14	0.48	0.53	1.45	1.47	0.74	1.01	7/8
J10-12ME	5/8	7/8 - 14	3/4 - 14	0.48	0.72	1.53	1.59	0.74	1.11	1-1/16
J12ME	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	1.59	0.85	1.11	1-1/16
J12-8ME	3/4	1-1/16 - 12	1/2 - 14	0.61	0.53	1.66	1.59	0.85	1.13	1-1/16
J12-16ME	3/4	1-1/16 - 12	1 - 11-1/2	0.61	0.94	1.81	1.97	0.85	1.40	1-5/16
J14ME	7/8	1-3/16 - 12	3/4 - 14	0.72	0.72	1.80	1.69	0.88	1.21	1-5/16
J16ME	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.81	1.97	0.90	1.40	1-5/16
J16-12ME	1	1-5/16 - 12	3/4 - 14	0.84	0.72	1.81	1.78	0.90	1.30	1-5/16
J20ME	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.25	2.06	2.38	0.94	1.79	1-5/8
J24ME	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	1.50	2.33	2.64	1.07	2.05	1-7/8
J32ME	2	2-1/2 - 12	2 - 11-1/2	1.78	1.94	3.06	3.00	1.32	2.39	2-1/2

BSPT Male Elbow

J-ME-BSPT

Tube to Male Pipe

Connects fractional or metric flared tube to female ISO tapered thread



SSP Part Number	Tube O.D.	Tube O.D (mm)	T Thread	PT Pipe Thread BSPT	D Through Hole	D1 Through Hole	L	L1	L2	W Wrench Flat
J4-4ME-BT	1/4	6	7/16 - 20	1/4 - 19	0.17	0.17	1.06	1.09	0.55	9/16
J6ME-BT	3/8	10	9/16 - 18	1/4 - 19	0.30	0.28	1.06	1.09	0.56	9/16
J6-6ME-BT	3/8	10	9/16 - 18	3/8 - 19	0.30	0.30	1.14	1.22	0.56	3/4
J8ME-BT	1/2	12	3/4 - 16	3/8 - 19	0.39	0.39	1.25	1.22	0.66	3/4
J8-8ME-BT	1/2	12	3/4 - 16	1/2 - 14	0.39	0.39	1.33	1.47	0.66	7/8
J10ME-BT	5/8	14	7/8 - 14	1/2 - 14	0.48	0.48	1.45	1.47	0.76	7/8
J12ME-BT	3/4	18	1-1/16 - 12	3/4 - 14	0.61	0.61	1.66	1.59	0.86	1-1/16

ISO 7/1, DIN 2999, JIS B0203, BS 21

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

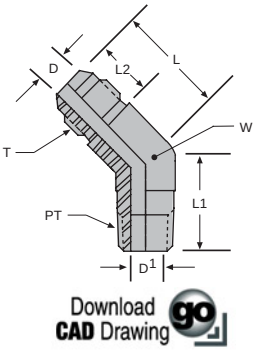
45° Male Elbow

J-ME-45

Tube to Male Pipe

Connects fractional or metric flared tube to female NPT thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure
J2ME-45	1/8	5/16 - 24	1/8 - 27	0.06	0.19	0.69	0.52	0.43	7/16	5000
J3ME-45	3/16	3/8 - 24	1/8 - 27	0.13	0.19	0.69	0.52	0.46	7/16	5000
J4ME-45	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.72	0.64	0.54	7/16	5000
J4-4ME-45	1/4	7/16 - 20	1/4 - 18	0.17	0.28	0.82	0.86	0.54	9/16	5000
J5ME-45	5/16	1/2 - 20	1/8 - 27	0.23	0.19	0.77	0.64	0.54	9/16	5000
J5-4ME-45	5/16	1/2 - 20	1/4 - 18	0.23	0.28	0.82	0.86	0.54	9/16	5000
J6ME-45	3/8	9/16 - 18	1/4 - 18	0.30	0.28	0.83	0.86	0.54	9/16	5000
J6-2ME-45	3/8	9/16 - 18	1/8 - 27	0.30	0.19	0.83	0.67	0.54	9/16	5000
J6-6ME-45	3/8	9/16 - 18	3/8 - 18	0.30	0.41	0.87	0.95	0.54	3/4	5000
J8ME-45	1/2	3/4 - 16	3/8 - 18	0.39	0.41	0.98	0.95	0.64	3/4	5000
J8-4ME-45	1/2	3/4 - 16	1/4 - 18	0.39	0.28	0.98	0.95	0.64	3/4	5000
J8-8ME-45	1/2	3/4 - 16	1/2 - 14	0.39	0.53	0.99	1.17	0.64	7/8	5000
J10ME-45	5/8	7/8 - 14	1/2 - 14	0.48	0.53	1.11	1.17	0.74	7/8	5000
J12ME-45	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.28	1.20	0.85	1-1/16	4000
J16ME-45	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.47	1.48	0.90	1-5/16	3000
J16-12ME-45	1	1-5/16 - 12	3/4 - 14	0.84	0.72	1.47	1.29	0.90	1-5/16	3500
J20ME-45	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.25	1.59	1.67	0.94	1-5/8	2500
J24ME-45	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	1.50	1.78	1.77	1.07	1-7/8	2000
J32ME-45	2	2-1/2 - 12	2 - 11-1/2	1.78	1.94	2.22	2.11	1.32	2-1/2	1500



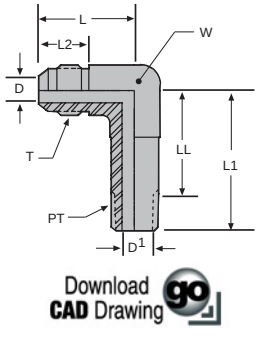
Long Male Elbow

J-LME

Tube to Male Pipe

Connects fractional or metric flared tube to female NPT thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	SS Working Pressure
J4LME	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	1.17	0.54	0.93	7/16	5000
J4-4LME	1/4	7/16 - 20	1/4 - 18	0.17	0.28	1.05	1.58	0.54	1.24	9/16	5000
J5LME	5/16	1/2 - 20	1/8 - 27	0.23	0.19	0.95	1.17	0.54	0.93	9/16	5000
J6LME	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	1.58	0.54	1.24	9/16	5000
J6-6LME	3/8	9/16 - 18	3/8 - 18	0.30	0.41	1.14	1.82	0.54	1.47	3/4	5000
J8LME	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	1.82	0.64	1.47	3/4	5000
J8-8LME	1/2	3/4 - 16	1/2 - 14	0.39	0.53	1.33	2.17	0.64	1.71	7/8	5000
J12LME	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	2.44	0.85	1.96	1-1/16	4000



Pressure Ratings Based on ASME B31.3 Power Piping Code

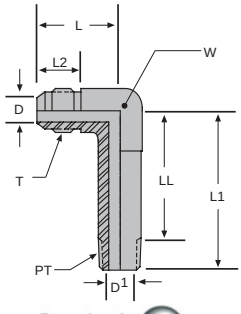
Extra Long Male Elbow

J-LLME

Tube to Male Pipe

Connects fractional or metric flared tube to female NPT thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	SS Working Pressure
J4LLME	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	1.56	0.54	1.32	7/16	5000
J4-4LLME	1/4	7/16 - 20	1/4 - 18	0.17	0.28	1.05	2.07	0.54	1.73	9/16	5000
J5LLME	5/16	1/2 - 20	1/8 - 27	0.23	0.19	0.95	1.63	0.54	1.39	9/16	5000
J6LLME	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	2.07	0.54	1.73	9/16	5000
J6-6LLME	3/8	9/16 - 18	3/8 - 18	0.30	0.41	1.14	2.42	0.54	2.07	3/4	5000
J8LLME	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	2.42	0.64	2.07	3/4	5000
J8-8LLME	1/2	3/4 - 16	1/2 - 14	0.39	0.53	1.33	2.87	0.64	2.41	7/8	5000
J10LLME	5/8	7/8 - 14	1/2 - 14	0.48	0.53	1.45	2.87	0.74	2.41	7/8	5000
J12LLME	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	3.28	0.85	2.80	1-1/16	4000
J16LLME	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.81	4.05	0.90	3.48	1-5/16	3000
J20LLME	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.25	2.06	5.00	0.94	4.41	1-5/8	2500



Download CAD Drawing

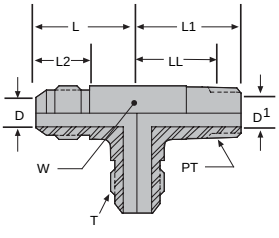
Male Run Tee

J-TMT

Tube to Male Pipe

Connects flared fractional or metric tube to female NPT thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	SS Working Pressure
J2TMT	1/8	5/16 - 24	1/8 - 27	0.06	0.19	0.77	0.72	0.43	0.48	7/16	5000
J3TMT	3/16	3/8 - 24	1/8 - 27	0.13	0.19	0.83	0.72	0.46	0.48	7/16	5000
J4TMT	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	0.78	0.54	0.54	7/16	5000
J4-4-4TMT	1/4	7/16 - 20	1/4 - 18	0.17	0.28	1.05	1.09	0.54	0.75	9/16	5000
J5TMT	5/16	1/2 - 20	1/8 - 27	0.23	0.19	0.95	0.78	0.54	0.54	9/16	5000
J6TMT	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	1.09	0.54	0.75	9/16	5000
J6-6-6TMT	3/8	9/16 - 18	3/8 - 18	0.30	0.41	1.14	1.22	0.54	0.87	3/4	5000
J8TMT	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	1.22	0.64	0.87	3/4	5000
J8-8-8TMT	1/2	3/4 - 16	1/2 - 14	0.39	0.53	1.33	1.47	0.64	1.01	7/8	5000
J10TMT	5/8	7/8 - 14	1/2 - 14	0.48	0.53	1.45	1.47	0.74	1.01	7/8	5000
J12TMT	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	1.59	0.85	1.11	1-1/16	4000
J16TMT	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.81	1.97	0.90	1.40	1-5/16	3000
J20TMT	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.25	2.06	2.38	0.94	1.79	1-5/8	2500
J24TMT	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	1.50	2.33	2.64	1.07	2.05	1-7/8	2000
J32TMT	2	2-1/2 - 12	2 - 11-1/2	1.78	1.94	3.06	3.00	1.32	2.39	2-1/2	1500



Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

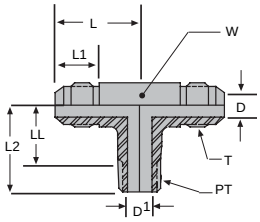
SAE 37° Flared

Male Branch Tee

J-TTM

Tube to Male Pipe

Connects flared fractional or metric tube to female NPT thread



Download CAD Drawing

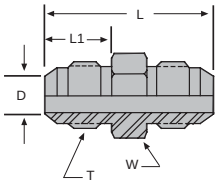
SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	SS Working Pressure
J2TTM	1/8	5/16 - 24	1/8 - 27	0.06	0.19	0.77	0.43	0.72	0.48	7/16	5000
J3TTM	3/16	3/8 - 24	1/8 - 27	0.13	0.19	0.83	0.46	0.72	0.48	7/16	5000
J4TTM	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	0.54	0.78	0.54	7/16	5000
J4-4-4TTM	1/4	7/16 - 20	1/4 - 18	0.17	0.28	1.05	0.54	1.09	0.75	9/16	5000
J5TTM	5/16	1/2 - 20	1/8 - 27	0.23	0.19	0.95	0.54	0.78	0.54	9/16	5000
J6TTM	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	0.54	1.09	0.75	9/16	5000
J6-6-6TTM	3/8	9/16 - 18	3/8 - 18	0.30	0.41	1.14	0.54	1.22	0.87	3/4	5000
J8TTM	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	0.64	1.22	0.87	3/4	5000
J8-8-8TTM	1/2	3/4 - 16	1/2 - 14	0.39	0.53	1.33	0.64	1.47	1.01	7/8	5000
J10TTM	5/8	7/8 - 14	1/2 - 14	0.48	0.53	1.45	0.74	1.47	1.01	7/8	5000
J12TTM	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	0.85	1.59	1.11	1-1/16	4000
J16TTM	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.81	0.90	1.97	1.40	1-5/16	3000
J20TTM	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	1.25	2.06	0.94	2.38	1.79	1-5/8	2500
J24TTM	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	1.50	2.33	1.07	2.64	2.05	1-7/8	2000
J32TTM	2	2-1/2 - 12	2 - 11-1/2	1.78	1.94	3.06	1.32	3.00	2.39	2-1/2	1500

Union

JU

Tube to Tube Union

Connects flared fractional or metric tubes



Download CAD Drawing

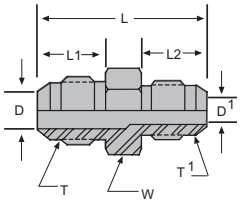
SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Hex	SS Working Pressure	Brass Working Pressure
J2U	1/8	5/16 - 24	0.06	1.17	0.45	7/16	6000	
J3U	3/16	3/8 - 24	0.13	1.23	0.48	7/16	6000	
J4U	1/4	7/16 - 20	0.17	1.37	0.55	1/2	6000	3250
J5U	5/16	1/2 - 20	0.23	1.37	0.55	9/16	6000	
J6U	3/8	9/16 - 18	0.30	1.41	0.56	5/8	6000	3250
J8U	1/2	3/4 - 16	0.39	1.62	0.66	13/16	6000	
J10U	5/8	7/8 - 14	0.48	1.88	0.76	15/16	6000	
J12U	3/4	1-1/16 - 12	0.61	2.16	0.86	1-1/8	6000	3250
J14U	7/8	1-3/16 - 12	0.72	2.21	0.89	1-1/4	4800	
J16U	1	1-5/16 - 12	0.84	2.25	0.91	1-3/8	4800	2600
J20U	1-1/4	1-5/8 - 12	1.08	2.43	0.96	1-11/16	3600	
J24U	1-1/2	1-7/8 - 12	1.31	2.75	1.08	2	2400	
J32U	2	2-1/2 - 12	1.78	3.40	1.33	2-5/8	1800	

Pressure Ratings Based on ASME B31.3 Power Piping Code

Reducing Union

J-U

Tube to Tube Union
Connects flared fractional or metric tubes



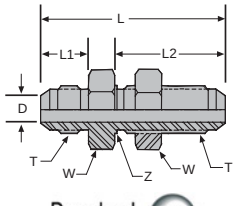
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Hex	SS Working Pressure
J4-2U	1/4 x 1/8	7/16 - 20	5/16 - 24	0.17	0.06	1.27	0.55	0.45	1/2	6000
J5-4U	5/16 x 1/4	1/2 - 20	7/16 - 20	0.23	0.17	1.37	0.55	0.55	9/16	6000
J6-4U	3/8 x 1/4	9/16 - 18	7/16 - 20	0.30	0.17	1.40	0.56	0.55	5/8	6000
J8-4U	1/2 x 1/4	3/4 - 16	7/16 - 20	0.39	0.17	1.51	0.66	0.55	13/16	6000
J8-6U	1/2 x 3/8	3/4 - 16	9/16 - 18	0.39	0.30	1.52	0.66	0.56	13/16	6000
J10-4U	5/8 x 1/4	7/8 - 14	7/16 - 20	0.48	0.17	1.67	0.76	0.55	15/16	6000
J10-6U	5/8 x 3/8	7/8 - 14	9/16 - 18	0.48	0.30	1.68	0.76	0.56	15/16	6000
J10-8U	5/8 x 1/2	7/8 - 14	3/4 - 16	0.48	0.39	1.78	0.76	0.66	15/16	6000
J12-4U	3/4 x 1/4	1-1/16 - 12	7/16 - 20	0.61	0.17	1.85	0.86	0.55	1-1/8	6000
J12-6U	3/4 x 3/8	1-1/16 - 12	9/16 - 18	0.61	0.30	1.85	0.86	0.56	1-1/8	6000
J12-8U	3/4 x 1/2	1-1/16 - 12	3/4 - 16	0.61	0.39	1.95	0.86	0.66	1-1/8	6000
J12-10U	3/4 x 5/8	1-1/16 - 12	7/8 - 14	0.61	0.48	2.05	0.86	0.76	1-1/8	6000
J14-12U	7/8 x 3/4	1-3/16 - 12	1-1/16 - 12	0.72	0.61	2.13	0.89	0.86	1-1/4	4800
J16-4U	1 x 1/4	1-5/16 - 12	7/16 - 20	0.84	0.17	1.89	0.91	0.55	1-3/8	4800
J16-6U	1 x 3/8	1-5/16 - 12	9/16 - 18	0.84	0.30	1.89	0.91	0.56	1-3/8	4800
J16-8U	1 x 1/2	1-5/16 - 12	3/4 - 16	0.84	0.39	2.00	0.91	0.66	1-3/8	4800
J16-12U	1 x 3/4	1-5/16 - 12	1-1/16 - 12	0.84	0.61	2.20	0.91	0.86	1-3/8	4800
J20-8U	1-1/4 x 1/2	1-5/8 - 12	3/4 - 16	1.08	0.39	2.13	0.96	0.66	1-11/16	3600
J20-12U	1-1/4 x 3/4	1-5/8 - 12	1-1/16 - 12	1.08	0.61	2.34	0.96	0.86	1-11/16	3600
J20-16U	1-1/4 x 1	1-5/8 - 12	1-5/16 - 12	1.08	0.84	2.38	0.96	0.91	1-11/16	3600
J24-16U	1-1/2 x 1	1-7/8 - 12	1-5/16 - 12	1.31	0.84	2.58	1.08	0.91	2	2400
J24-20U	1-1/2 x 1-1/4	1-7/8 - 12	1-5/8 - 12	1.31	1.31	2.62	1.08	0.96	2	2400
J32-16U	2 x 1	2-1/2 - 12	1-5/16 - 12	1.78	0.84	2.98	1.33	0.91	2-5/8	1800
J32-20U	2 x 1-1/4	2-1/2 - 12	1-5/8 - 12	1.78	1.08	3.02	1.33	0.96	2-5/8	1800
J32-24U	2 x 1-1/2	2-1/2 - 12	1-7/8 - 12	1.78	1.31	3.15	1.33	1.08	2-5/8	1800

Bulkhead Union

J-BU

Tube to Tube Union
Connects fractional or metric flared tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	W Hex	Z	SS Working Pressure
J2BU	1/8	5/16 - 24	0.06	1.87	0.45	1.11	9/16	0.31	6000
J4BU	1/4	7/16 - 20	0.17	2.07	0.55	1.20	11/16	0.44	6000
J5BU	5/16	1/2 - 20	0.23	2.07	0.55	1.20	3/4	0.50	6000
J6BU	3/8	9/16 - 18	0.30	2.18	0.56	1.28	13/16	0.56	6000
J8BU	1/2	3/4 - 16	0.39	2.44	0.66	1.44	1	0.75	6000
J10BU	5/8	7/8 - 14	0.48	2.74	0.76	1.58	1-1/8	0.88	6000
J12BU	3/4	1-1/16 - 12	0.61	3.09	0.86	1.75	1-3/8	1.06	6000
J14BU	7/8	1-3/16 - 12	0.72	3.12	0.89	1.75	1-1/2	1.19	4800
J16BU	1	1-5/16 - 12	0.84	3.14	0.91	1.75	1-5/8	1.31	4800
J20BU	1-1/4	1-5/8 - 12	1.08	3.31	0.96	1.80	1-7/8	1.63	3600
J24BU	1-1/2	1-7/8 - 12	1.31	3.52	1.08	1.81	2-1/8	1.88	2400
J32BU	2	2-1/2 - 12	1.78	4.20	1.33	2.09	2-3/4	2.50	1800

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

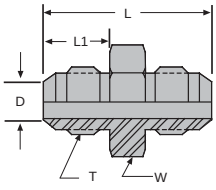
Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Large Hex Union

JLHU

Tube to Tube Union
Connects fractional or metric flared tubes



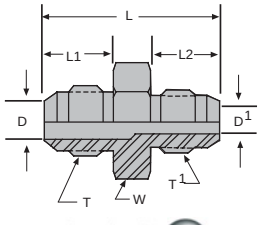
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
J2LHU	1/8	5/16 - 24	0.06	1.17	0.45	9/16	6000
J3LHU	3/16	3/8 - 24	0.13	1.23	0.48	5/8	6000
J4LHU	1/4	7/16 - 20	0.17	1.37	0.55	11/16	6000
J5LHU	5/16	1/2 - 20	0.23	1.37	0.55	3/4	6000
J6LHU	3/8	9/16 - 18	0.30	1.41	0.56	13/16	6000
J8LHU	1/2	3/4 - 16	0.39	1.62	0.66	1	6000
J10LHU	5/8	7/8 - 14	0.48	1.88	0.76	1-1/8	6000
J12LHU	3/4	1-1/16 - 12	0.61	2.16	0.86	1-3/8	6000
J14LHU	7/8	1-3/16 - 12	0.72	2.21	0.89	1-1/2	4800
J16LHU	1	1-5/16 - 12	0.84	2.25	0.91	1-5/8	4800
J20LHU	1-1/4	1-5/8 - 12	1.08	2.43	0.96	1-7/8	3600
J24LHU	1-1/2	1-7/8 - 12	1.31	2.75	1.08	2-1/8	2400
J32LHU	2	2-1/2 - 12	1.78	3.40	1.33	2-3/4	1800

Large Hex Reducing Union

J-LHU

Tube to Tube Union
Connects fractional or metric flared tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Hex	SS Working Pressure
J4-2LHU	1/4 x 1/8	7/16 - 20	5/16 - 24	0.17	0.06	1.27	0.55	0.45	11/16	6000
J6-4LHU	3/8 x 1/4	9/16 - 18	7/16 - 20	0.30	0.17	1.40	0.56	0.55	13/16	6000
J8-4LHU	1/2 x 1/4	3/4 - 16	7/16 - 20	0.39	0.17	1.51	0.66	0.55	1	6000
J8-6LHU	1/2 x 3/8	3/4 - 16	9/16 - 18	0.39	0.30	1.52	0.66	0.56	1	6000
J10-8LHU	5/8 x 1/2	7/8 - 14	3/4 - 16	0.48	0.39	1.78	0.76	0.66	1-1/8	6000
J12-6LHU	3/4 x 3/8	1-1/16 - 12	9/16 - 18	0.61	0.30	1.85	0.86	0.56	1-3/8	6000
J12-8LHU	3/4 x 1/2	1-1/16 - 12	3/4 - 16	0.61	0.39	1.95	0.86	0.66	1-3/8	6000
J12-10LHU	3/4 x 5/8	1-1/16 - 12	7/8 - 14	0.61	0.48	2.05	0.86	0.76	1-5/8	6000
J16-8LHU	1 x 1/2	1-5/16 - 12	3/4 - 16	0.84	0.39	2.00	0.91	0.66	1-5/8	4800
J16-12LHU	1 x 3/4	1-5/16 - 12	1-1/16 - 12	0.84	0.61	2.20	0.91	0.86	1-5/8	4800
J20-12LHU	1-1/4 x 3/4	1-5/8 - 12	1-1/16 - 12	1.08	0.61	2.34	0.96	0.86	1-7/8	3600
J20-16LHU	1-1/4 x 1	1-5/8 - 12	1-5/16 - 12	1.08	0.84	2.38	0.96	0.91	1-7/8	3600
J24-16LHU	1-1/2 x 1	1-7/8 - 12	1-5/16 - 12	1.31	0.84	2.58	1.08	0.91	2-1/8	2400
J24-20LHU	1-1/2 x 1-1/4	1-7/8 - 12	1-5/8 - 12	1.31	1.31	2.62	1.08	0.96	2-1/8	2400
J32-20LHU	2 x 1-1/4	2-1/2 - 12	1-5/8 - 12	1.78	1.08	3.02	1.33	0.96	2-3/4	1800
J32-24LHU	2 x 1-1/2	2-1/2 - 12	1-7/8 - 12	1.78	1.31	3.15	1.33	1.08	2-3/4	1800

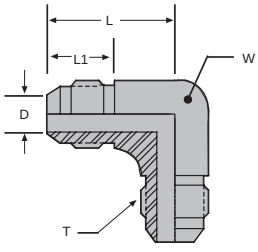
Pressure Ratings Based on ASME B31.3 Power Piping Code

Union Elbow

J-E

Tube to Tube Union
Connects fractional or metric flared tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure	Brass Working Pressure
J2E	1/8	5/16 - 24	0.06	0.77	0.43	7/16	5000	
J3E	3/16	3/8 - 24	0.13	0.83	0.46	7/16	5000	
J4E	1/4	7/16 - 20	0.17	0 89	0.54	7/16	5000	3250
J5E	5/16	1/2 - 20	0.23	0.95	0.54	9/16	5000	
J6E	3/8	9/16 - 18	0.30	1.06	0.54	9/16	5000	3250
J8E	1/2	3/4 - 16	0.39	1.25	0.64	3/4	5000	3250
J10E	5/8	7/8 - 14	0.48	1.45	0.74	7/8	5000	
J12E	3/4	1-1/16 - 12	0.61	1.66	0.85	1-1/16	4500	2925
J14E	7/8	1-3/16 - 12	0.72	1.80	0.88	1-5/16	3500	
J16E	1	1-5/6 - 12	0.84	1.81	0.90	1-5/16	3500	2275
J20E	1-1/4	1-5/8 - 12	1.08	2.06	0.94	1-5/8	3000	
J24E	1-1/2	1-7/8 - 12	1.31	2.33	1.07	1-7/8	2000	
J32E	2	2-1/2 - 12	1.78	3.06	1.32	2-1/2	1500	



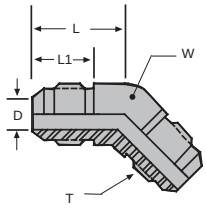
Download CAD Drawing

45° Union Elbow

J-E-45

Tube to Tube Union
Connects fractional or metric flared tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure
J3E-45	3/16	3/8 - 24	0.13	0.69	0.46	7/16	5000
J4E-45	1/4	7/16 - 20	0.17	0.72	0.54	7/16	5000
J6E-45	3/8	9/16 - 18	0.30	0.83	0.54	9/16	5000
J8E-45	1/2	3/4 - 16	0.39	0.98	0.64	3/4	5000
J12E-45	3/4	1-1/16 - 12	0.61	1.28	0.85	1-1/16	4500
J16E-45	1	1-5/16 - 12	0.84	1.47	0.90	1-5/16	3500



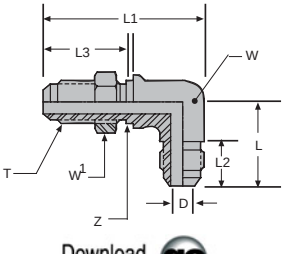
Download CAD Drawing

Bulkhead Union Elbow

J-BE

Tube to Tube Union
Connects fractional or metric flared tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	L3	W Wrench Flat	W1 Hex	Z	SS Working Pressure
J2BE	1/8	5/16 - 24	0.06	0.88	1.50	0.43	0.92	7/16	9/16	0.31	5000
J3BE	3/16	3/8 - 24	0.13	0.94	1.50	0.46	0.92	7/16	5/8	0.38	5000
J4BE	1/4	7/16 - 20	0.17	0.97	1.59	0.54	1.02	7/16	11/16	0.44	5000
J5BE	5/16	1/2 - 20	0.23	1.06	1.72	0.54	1.02	9/16	3/4	0.50	5000
J6BE	3/8	9/16 - 18	0.30	1.09	1.81	0.54	1.09	9/16	13/16	0.56	5000
J8BE	1/2	3/4 - 16	0.39	1.36	2.11	0.64	1.25	3/4	1	0.75	5000
J10BE	5/8	7/8 - 14	0.48	1.56	2.39	0.74	1.39	7/8	1-1/8	0.88	5000
J12BE	3/4	1-1/16 - 12	0.61	1.78	2.67	0.85	1.56	1-1/16	1-3/8	1.06	4500
J14BE	7/8	1-3/16 - 12	0.72	1.92	2.80	0.88	1.56	1-5/16	1-1/2	1.19	3500
J16BE	1	1-5/16 - 12	0.84	1.94	2.80	0.90	1.56	1-5/16	1-5/8	1.31	3500



Download CAD Drawing

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

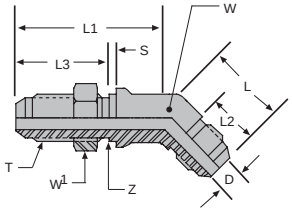
SAE 37° Flared

45° Bulkhead Union Elbow

J-BE-45

Tube to Tube Union
Connects fractional or metric flared tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	L3	S	W Wrench Flat	W1 Hex	Z	SS Working Pressure
J4BE-45	1/4	7/16 - 20	0.17	0.72	1.53	0.54	1.02	0.09	7/16	11/16	0.44	5000
J6BE-45	3/8	9/16 - 18	0.30	0.83	1.67	0.54	1.09	0.09	9/16	13/16	0.56	5000
J8BE-45	1/2	3/4 - 16	0.39	0.98	1.94	0.64	1.25	0.13	3/4	1	0.75	5000
J12BE-45	3/4	1-1/16 - 12	0.61	1.28	2.44	0.85	1.56	0.13	1-1/16	1-3/8	1.06	4500
J16BE-45	1	1-5/16 - 12	0.84	1.47	2.56	0.90	1.56	0.13	1-5/16	1-5/8	1.31	3500



Download CAD Drawing

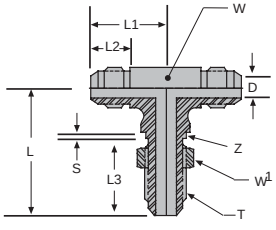
Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Bulkhead Branch Tee

J-BBT

Tube to Tube Union
Connects fractional or metric flared tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	L3	S	W Wrench Flat	W1 Hex	Z	SS Working Pressure
J2BBT	1/8	5/16 - 24	0.06	1.50	0.77	0.43	0.92	0.09	7/16	9/16	0.31	5000
J3BBT	3/16	3/8 - 24	0.13	1.50	0.83	0.46	0.92	0.09	7/16	5/8	0.38	5000
J4BBT	1/4	7/16 - 20	0.17	1.59	0.89	0.54	1.02	0.09	7/16	11/16	0.44	5000
J5BBT	5/16	1/2 - 20	0.23	1.72	0.95	0.54	1.02	0.09	9/16	3/4	0.50	5000
J6BBT	3/8	9/16 - 18	0.30	1.81	1.06	0.54	1.09	0.09	9/16	13/16	0.56	5000
J8BBT	1/2	3/4 - 16	0.39	2.11	1.25	0.64	1.25	0.13	3/4	1	0.75	5000
J10BBT	5/8	7/8 - 14	0.48	2.39	1.45	0.74	1.39	0.13	7/8	1-1/8	0.88	5000
J12BBT	3/4	1-1/16 - 12	0.61	2.67	1.66	0.85	1.56	0.13	1-1/16	1-3/8	1.06	4500
J14BBT	7/8	1-3/16 - 12	0.72	2.80	1.80	0.88	1.56	0.13	1-5/16	1-1/2	1.19	3500
J16BBT	1	1-5/16 - 12	0.84	2.80	1.81	0.90	1.56	0.13	1-5/16	1-5/8	1.31	3500
J20BBT	1-1/4	1-5/8 - 12	1.08	3.12	2.06	0.94	1.61	0.13	1-5/8	1-7/8	1.63	3000
J24BBT	1-1/2	1-7/8 - 12	1.31	3.42	2.33	1.07	1.62	0.13	1-7/8	2-1/8	1.88	2000
J32BBT	2	2-1/2 - 12	1.78	4.11	3.06	1.32	1.91	0.13	2-1/2	2-3/4	2.50	1500



Download CAD Drawing

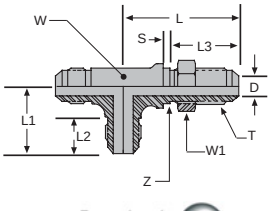
Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Bulkhead Run Tee

J-BRT

Tube to Tube Union
Connects fractional or metric flared tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	L3	S	W Wrench Flat	W1 Hex	Z	SS Working Pressure
J2BRT	1/8	5/16 - 24	0.06	1.50	0.88	0.43	0.92	0.09	7/16	9/16	0.31	5000
J3BRT	3/16	3/8 - 24	0.13	1.50	0.94	0.46	0.92	0.09	7/16	5/8	0.38	5000
J4BRT	1/4	7/16 - 20	0.17	1.59	0.97	0.54	1.02	0.09	7/16	11/16	0.44	5000
J5BRT	5/16	1/2 - 20	0.23	1.72	1.06	0.54	1.02	0.09	9/16	3/4	0.50	5000
J6BRT	3/8	9/16 - 18	0.30	1.81	1.09	0.54	1.09	0.09	9/16	13/16	0.56	5000
J8BRT	1/2	3/4 - 16	0.39	2.11	1.36	0.64	1.25	0.13	3/4	1	0.75	5000
J10BRT	5/8	7/8 - 14	0.48	2.39	1.56	0.74	1.39	0.13	7/8	1-1/8	0.88	5000
J12BRT	3/4	1-1/16 - 12	0.61	2.67	1.78	0.85	1.56	0.13	1-1/16	1-3/8	1.06	4500
J14BRT	7/8	1-3/16 - 12	0.72	2.80	1.92	0.88	1.56	0.13	1-5/16	1-1/2	1.19	3500
J16BRT	1	1-5/16 - 12	0.84	2.80	1.94	0.90	1.56	0.13	1-5/16	1-5/8	1.31	3500
J20BRT	1-1/4	1-5/8 - 12	1.08	3.12	2.17	0.94	1.61	0.13	1-5/8	1-7/8	1.63	3000
J24BRT	1-1/2	1-7/8 - 12	1.31	3.42	2.34	1.07	1.62	0.13	1-7/8	2-1/8	1.88	2000
J32BRT	2	2-1/2 - 12	1.78	4.11	2.89	1.32	1.91	0.13	2-1/2	2-3/4	2.50	1500



Download CAD Drawing

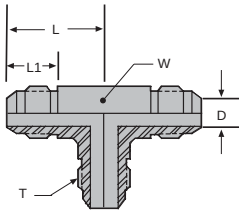
Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

Union Tee

J-T

Tube to Tube Union
Connects flared fractional or metric tubes



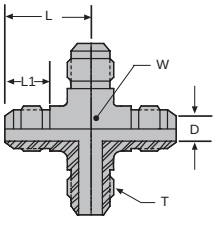
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure	Brass Working Pressure
J2T	1/8	5/16 - 24	0.06	0.77	0.43	7/16	5000	
J3T	3/16	3/8 - 24	0.13	0.83	0.46	7/16	5000	
J4T	1/4	7/16 - 20	0.17	0 89	0.54	7/16	5000	3250
J5T	5/16	1/2 - 20	0.23	0.95	0.54	9/16	5000	
J6T	3/8	9/16 - 18	0.30	1.06	0.54	9/16	5000	3250
J8T	1/2	3/4 - 16	0.39	1.25	0.64	3/4	5000	
J10T	5/8	7/8 - 14	0.48	1.45	0.74	7/8	5000	
J12T	3/4	1-1/16 - 12	0.61	1.66	0.85	1-1/16	4500	2925
J14T	7/8	1-3/16 - 12	0.72	1.80	0.88	1-5/16	3500	
J16T	1	1-5/6 - 12	0.84	1.81	0.90	1-5/16	3500	2275
J20T	1-1/4	1-5/8 - 12	1.08	2.06	0.94	1-5/8	3000	
J24T	1-1/2	1-7/8 - 12	1.31	2.33	1.07	1-7/8	2000	
J32T	2	2-1/2 - 12	1.78	3.06	1.32	2-1/2	1500	

Union Cross

J-X

Tube to Tube Union
Connects flared fractional or metric tubes



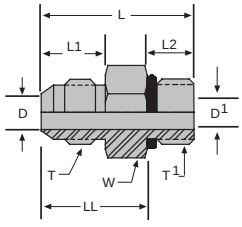
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure
J2X	1/8	5/16 - 24	0.06	0.77	0.43	7/16	5000
J3X	3/16	3/8 - 24	0.13	0.83	0.46	7/16	5000
J4X	1/4	7/16 - 20	0.17	0.89	0.54	7/16	5000
J6X	3/8	9/16 - 18	0.30	1.06	0.54	9/16	5000
J8X	1/2	3/4 - 16	0.39	1.25	0.64	3/4	5000
J10X	5/8	7/8 - 14	0.48	1.45	0.74	7/8	5000
J12X	3/4	1-1/16 - 12	0.61	1.66	0.85	1-1/16	4500
J16X	1	1-5/16 - 12	0.84	1.81	0.90	1-5/16	3500

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Download CAD Drawing



Straight Thread Connector

J-GC

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Hex	SS Working Pressure	Monel Working Pressure
J2GC	1/8	5/16 - 24	5/16 - 24	0.06	0.06	1.06	0.45	0.30	0.76	7/16	6000	
J3GC	3/16	3/8 - 24	3/8 - 24	0.13	0.13	1.10	0.48	0.30	0.80	1/2	6000	
J4GC	1/4	7/16 - 20	7/16 - 20	0.17	0.17	1.23	0.55	0.36	0.87	9/16	6000	5610
J4-5GC	1/4	7/16 - 20	1/2 - 20	0.17	0.23	1.23	0.55	0.36	0.87	5/8	6000	
J4-6GC	1/4	7/16 - 20	9/16 - 18	0.17	0.30	1.29	0.55	0.39	0.90	11/16	6000	
J4-8GC	1/4	7/16 - 20	3/4 - 16	0.17	0.39	1.37	0.55	0.44	0.93	7/8	6000	
J5GC	5/16	1/2 - 20	1/2 - 20	0.23	0.23	1.23	0.55	0.36	0.79	5/8	6000	
J6GC	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.30	0.56	0.36	0.91	11/16	6000	5610
J6-4GC	3/8	9/16 - 18	7/16 - 20	0.30	0.17	1.29	0.56	0.36	0.93	5/8	6000	5610
J6-8GC	3/8	9/16 - 18	3/4 - 16	0.30	0.39	1.38	0.56	0.44	0.94	7/8	6000	
J6-10GC	3/8	9/16 - 18	7/8 - 14	0.30	0.48	1.50	0.56	0.50	1.00	1	6000	
J8GC	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.48	0.66	0.44	1.04	7/8	6000	5610
J8-6GC	1/2	3/4 - 16	9/16 - 18	0.39	0.30	1.38	0.66	0.39	0.99	13/16	6000	5610
J8-10GC	1/2	3/4 - 16	7/8 - 14	0.39	0.48	1.60	0.66	0.50	1.10	1	6000	
J8-12GC	1/2	3/4 - 16	1-1/16 - 12	0.39	0.61	1.76	0.66	0.59	1.17	1-1/4	6000	
J10GC	5/8	7/8 - 14	7/8 - 14	0.48	0.48	1.70	0.76	0.50	1.20	1	6000	
J10-8GC	5/8	7/8 - 14	3/4 - 16	0.48	0.39	1.60	0.76	0.44	1.18	15/16	6000	
J10-12GC	5/8	7/8 - 14	1-1/16 - 12	0.48	0.61	1.86	0.76	0.59	1.27	1-1/4	6000	
J12GC	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.97	0.86	0.59	1.38	1-1/4	6000	5610
J12-8GC	3/4	1-1/16 - 12	3/4 - 16	0.61	0.39	1.76	0.86	0.44	1.32	1-1/8	6000	
J12-10GC	3/4	1-1/16 - 12	7/8 - 14	0.61	0.48	1.86	0.86	0.50	1.36	1-1/8	6000	
J12-14GC	3/4	1-1/16 - 12	1-3/16 - 12	0.61	0.61	1.96	0.86	0.59	1.37	1-3/8	5400	
J12-16GC	3/4	1-1/16 - 12	1-5/16 - 12	0.61	0.84	1.99	0.86	0.59	1.40	1-1/2	5400	
J14GC	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	1.99	0.89	0.59	1.40	1-3/8	5400	
J16GC	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	2.04	0.91	0.59	1.45	1-1/2	5400	5049
J16-10GC	1	1-5/16 - 12	7/8 - 14	0.84	0.48	1.89	0.91	0.59	1.30	1-3/8	5400	
J16-12GC	1	1-5/16 - 12	1-1/16 - 12	0.84	0.61	1.99	0.91	0.59	1.40	1-3/8	5400	5049
J16-14GC	1	1-5/16 - 12	1-3/16 - 12	0.84	0.72	2.02	0.91	0.59	1.43	1-3/8	5400	
J16-20GC	1	1-5/16 - 12	1-5/8 - 12	0.84	1.08	2.12	0.91	0.59	1.53	1-7/8	3600	
J20GC	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	1.08	2.17	0.96	0.59	1.58	1-7/8	3600	
J20-16GC	1-1/4	1-5/8 - 12	1-5/16 - 12	1.08	0.84	2.12	0.96	0.59	1.53	1-11/16	3600	
J24GC	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	1.31	2.37	1.07	0.59	1.78	2-1/8	2400	
J24-20GC	1-1/2	1-7/8 - 12	1-5/8 - 12	1.31	1.08	2.37	1.07	0.59	1.78	2	2400	
J32GC	2	2-1/2 - 12	2-1/2 - 12	1.78	1.78	2.78	1.33	0.59	2.19	2-3/4	1800	

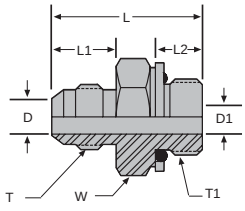
Pressure Ratings Based on ASME B31.3 Power Piping Code

BSPP Connector

J-GC-BSPP

Tube to Male ISO Parallel

Connects flared fractional or metric tube to female ISO parallel thread



SSP Part Number	Tube O.D.	Tube O.D. (mm)	T1 BSPP	T Thread	W Hex	D Through Hole	D1 Through Hole	L	L1	L2
J4GC-BP	1/4	6	1/8 - 28	7/16 - 20	5/8	0.17	0.17	1.13	0.55	0.30
J4-4GC-BP	1/4	6	1/4 - 19	7/16 - 20	3/4	0.17	0.17	1.26	0.55	0.45
J4-6GC-BP	1/4	6	3/8 - 19	7/16 - 20	7/8	0.17	0.17	1.30	0.55	0.45
J6GC-BP	3/8	10	1/4 - 19	9/16 - 18	3/4	0.30	0.23	1.26	0.56	0.45
J6-6GC-BP	3/8	10	3/8 - 19	9/16 - 18	7/8	0.30	0.30	1.30	0.56	0.45
J8GC-BP	1/2	12	3/8 - 19	3/4 - 16	7/8	0.39	0.31	1.42	0.66	0.45
J8-8GC-BP	1/2	12	1/2 - 14	3/4 - 16	1-1/8	0.39	0.39	1.63	0.66	0.56
J10GC-BP	5/8	14	1/2 - 14	7/8 - 14	1-1/8	0.48	0.48	1.73	0.76	0.56
J12GC-BP	3/4	18	3/4 - 14	1-1/16 - 12	1-3/8	0.61	0.61	1.86	0.86	0.56
J16GC-BP	1.00	25	1 - 11	1-5/16 - 12	1-3/4	0.84	0.84	2.12	0.91	0.73
J20GC-BP	1 1/4	32	1 1/4 - 11	1-5/8 - 12	2.00	1.08	1.08	2.24	0.96	0.73
J24GC-BP	1 1/2	38.	1 1/2 - 11	1-7/8 - 12	2-1/4	1.31	1.31	2.40	1.08	0.73

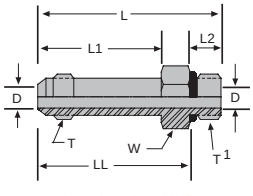
DIN-ISO 228/1, JIS B0202, BS 2779

Long Straight Thread Connector

J-LGC

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread



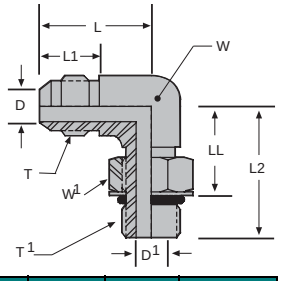
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	LL After Inst.	W Hex	SS Working Pressure
J4LGC	1/4	7/16 - 20	7/16 - 20	0.17	2.08	1.39	0.36	1.73	9/16	6000
J6LGC	3/8	9/16 - 18	9/16 - 18	0.30	2.31	1.56	0.39	2.08	11/16	6000
J8LGC	1/2	3/4 - 16	3/4 - 16	0.39	2.70	1.88	0.44	2.50	7/8	6000
J10LGC	5/8	7/8 - 14	7/8 - 14	0.48	3.04	2.09	0.50	2.89	1	6000
J12LGC	3/4	1-1/16 - 12	1-1/16 - 12	0.61	3.61	2.50	0.59	3.34	1-1/4	6000
J16LGC	1	1-5/16 - 12	1-5/16 - 12	0.84	3.98	2.84	0.59	3.72	1-1/2	5400
J20LGC	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	4.69	3.47	0.59	4.10	1-7/8	3600

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Download CAD Drawing



Straight Thread Elbow

J-GE

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
J2GE	1/8	5/16 - 24	5/16 - 24	0.06	0.06	0.77	0.43	0.94	0.63	7/16	7/16	5000
J3GE	3/16	3/8 - 24	3/8 - 24	0.13	0.13	0.83	0.46	0.94	0.61	7/16	1/2	5000
J4GE	1/4	7/16 - 20	7/16 - 20	0.17	0.17	0.89	0.54	1.03	0.64	7/16	9/16	5000
J4-6GE	1/4	7/16 - 20	9/16 - 18	0.17	0.30	0.89	0.54	1.25	0.82	9/16	11/16	5000
J5GE	5/16	1/2 - 20	1/2 - 20	0.23	0.23	0.95	0.54	1.13	0.70	9/16	5/8	5000
J6GE	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.06	0.54	1.25	0.82	9/16	11/16	5000
J6-4GE	3/8	9/16 - 18	7/16 - 20	0.30	0.17	1.06	0.54	1.19	0.80	9/16	9/16	5000
J6-8GE	3/8	9/16 - 18	3/4 - 16	0.30	0.39	1.14	0.54	1.45	0.96	3/4	7/8	5000
J6-10GE	3/8	9/16 - 18	7/8 - 14	0.30	0.48	1.23	0.54	1.70	1.24	7/8	1	4500
J8GE	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.25	0.64	1.45	0.96	3/4	7/8	5000
J8-6GE	1/2	3/4 - 16	9/16 - 18	0.39	0.30	1.25	0.64	1.36	0.89	3/4	11/16	5000
J8-10GE	1/2	3/4 - 16	7/8 - 14	0.39	0.48	1.34	0.64	1.70	1.14	7/8	1	4500
J8-12GE	1/2	3/4 - 16	1-1/16 - 12	0.39	0.61	1.42	0.64	1.94	1.47	1-1/16	1-1/4	4000
J10GE	5/8	7/8 - 14	7/8 - 14	0.48	0.48	1.45	0.74	1.70	1.14	7/8	1	4500
J10-8GE	5/8	7/8 - 14	3/4 - 16	0.48	0.39	1.45	0.74	1.55	1.06	7/8	7/8	5000
J10-12GE	5/8	7/8 - 14	1-1/16 - 12	0.48	0.61	1.53	0.74	1.94	1.79	1-1/16	1-1/4	4000
J12GE	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.66	0.85	1.94	1.29	1-1/16	1-1/4	4000
J12-8GE	3/4	1-1/16 - 12	3/4 - 16	0.61	0.39	1.66	0.85	1.63	1.16	1-1/16	7/8	4000
J12-10GE	3/4	1-1/16 - 12	7/8 - 14	0.61	0.48	1.66	0.85	1.78	1.22	1-1/16	1	4000
J12-16GE	3/4	1-1/16 - 12	1-5/16 - 12	0.61	0.84	1.81	0.85	2.05	1.40	1-5/16	1-1/2	3000
J14GE	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	1.73	0.88	2.00	1.35	1-5/16	1-3/8	3000
J16GE	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	1.81	0.90	2.05	1.40	1-5/16	1-1/2	3000
J16-12GE	1	1-5/16 - 12	1-1/16 - 12	0.84	0.61	1.81	0.90	2.05	1.40	1-5/16	1-1/4	3000
J20GE	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	1.08	2.06	0.94	2.25	1.60	1-5/8	1-7/8	2500
J24GE	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	1.31	2.33	1.07	2.39	1.74	1-7/8	2-1/8	2000
J32GE	2	2-1/2 - 12	2-1/2 - 12	1.78	1.78	3.06	1.32	2.89	2.24	2-1/2	2-3/4	1500

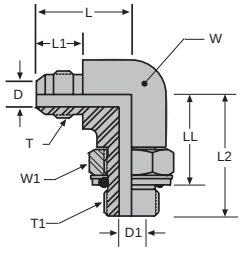
Pressure Ratings Based on ASME B31.3 Power Piping Code

BSPP Elbow

J-GE-BSPP

Tube to Male ISO Parallel

Connects flared fractional or metric tube to female ISO parallel thread



SSP Part Number	Tube O.D.	Tube O.D. (mm)	T1 BSPP Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex
J4GE-BP	1/4	6	1/8 - 28	7/16 - 20	0.17	0.17	0.89	0.55	1.03	0.76	7/16	9/16
J4-4GE-BP	1/4	6	1/4 - 19	7/16 - 20	0.17	0.17	1.06	0.55	1.26	0.86	9/16	3/4
J6GE-BP	3/8	10	1/4 - 19	9/16 - 18	0.30	0.23	1.06	0.56	1.30	0.93	9/16	3/4
J6-6GE-BP	3/8	10	3/8 - 19	9/16 - 18	0.30	0.30	1.14	0.56	1.46	1.08	3/4	7/8
J8GE-BP	1/2	12	3/8 - 19	3/4 - 16	0.39	0.39	1.25	0.66	1.46	1.09	3/4	7/8
J8-8GE-BP	1/2	12	1/2 - 14	3/4 - 16	0.39	0.48	1.33	0.66	1.69	1.18	7/8	1-1/16
J12GE-BP	3/4	18	3/4 - 14	1-1/16 - 12	0.61	0.61	1.66	0.86	1.95	1.44	1-1/16	1-7/16
J16GE-BP	1	25	1 - 11	1-5/16 - 12	0.84	0.84	1.81	0.91	2.00	1.26	1-5/16	1-5/8

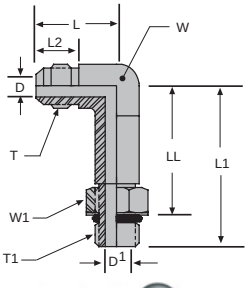
DIN-ISO 228/1, JIS B0202, BS 2779

Long Straight Thread Elbow

J-LGE

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread



Download CAD Drawing

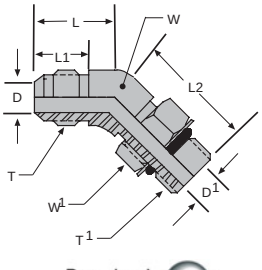
SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
J4LGE	1/4	7/16 - 20	7/16 - 20	0.17	0.17	0.89	1.73	0.54	1.34	7/16	9/16	5000
J6LGE	3/8	9/16 - 18	9/16 - 18	0.30	0.17	1.06	2.08	0.54	1.65	9/16	9/16	5000
J8LGE	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.25	2.50	0.64	2.01	3/4	7/8	5000
J8-10LGE	1/2	3/4 - 16	3/4 - 16	0.39	0.48	1.34	2.59	0.64	2.03	7/8	1	4500
J10LGE	5/8	7/8 - 14	7/8 - 14	0.48	0.48	1.45	2.89	0.74	2.33	7/8	1	4500
J12LGE	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.66	3.34	0.85	2.69	1-1/16	1-1/4	4000
J16LGE	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	1. 81	3.72	0.90	3.07	1-5/16	1-1/2	3000
J20LGE	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	1.08	2.06	4.41	0.94	3.79	1-5/8	1-7/8	2500

45° Straight Thread Elbow

J-GE-45

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

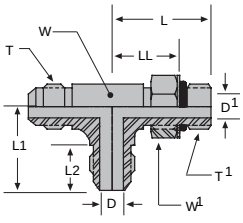


Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Wrench Flat	W1 Hex	SS Working Pressure
J4GE-45	1/4	7/16 - 20	7/16 - 20	0.17	0.17	0.72	0.54	1.05	7/16	9/16	5000
J4-6GE-45	1/4	7/16 - 20	9/16 - 18	0.17	0.30	0.77	0.54	1.14	9/16	11/16	5000
J6GE-45	3/8	9/16 - 18	9/16 - 18	0.30	0.30	0.83	0.54	1.14	9/16	11/16	5000
J6-8GE-45	3/8	9/16 - 18	3/4 - 16	0.30	0.39	0.85	0.54	1.45	3/4	7/8	5000
J8GE-45	1/2	3/4 - 16	3/4 - 16	0.39	0.39	0.98	0.64	1.30	3/4	7/8	5000
J8-6GE-45	1/2	3/4 - 16	9/16 - 18	0.39	0.30	0.98	0.64	1.17	3/4	11/16	5000
J10GE-45	5/8	7/8 - 14	7/8 - 14	0.48	0.48	1.11	0.74	1.52	7/8	1	4000
J12GE-45	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.28	0.85	1.73	1-1/16	1-1/4	
J16GE-45	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	1.47	0.90	1.86	1-5/16	1-1/2	3000
J16-12GE-45	1	1-5/16 - 12	1-1/16 - 12	0.84	0.61	1.47	0.90	1.86	1-5/16	1-1/4	3000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared



Download CAD Drawing

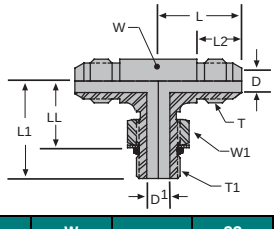
Straight Thread Run Tee

J-GRT

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
J2GRT	1/8	5/16 - 24	5/16 - 24	0.06	0.06	0.94	0.77	0.43	0.63	7/16	7/16	5000
J3GRT	3/16	3/8 - 24	3/8 - 24	0.13	0.13	0.94	0.83	0.46	0.61	7/16	1/2	5000
J4GRT	1/4	7/16 - 20	7/16 - 20	0.17	0.17	1.03	0.89	0.54	0.64	7/16	9/16	5000
J5GRT	5/16	1/2 - 20	1/2 - 20	0.23	0.23	1.13	0.95	0.54	0.70	9/16	5/8	5000
J6GRT	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.25	1.06	0.54	0.82	9/16	11/16	5000
J8GRT	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.45	1.25	0.64	0.96	3/4	7/8	5000
J10GRT	5/8	7/8 - 14	7/8 - 14	0.48	0.48	1.70	1.45	0.74	1.14	7/8	1	4500
J12GRT	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.94	1.66	0.85	1.29	1-1/16	1-1/4	4000
J14GRT	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	2.00	1.73	0.88	1.35	1-5/16	1-3/8	3000
J16GRT	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	2.05	1.81	0.90	1.40	1-5/16	1-1/2	3000
J20GRT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	1.08	2.25	2.06	0.94	1.60	1-5/8	1-7/8	2500
J24GRT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	1.31	2.39	2.33	1.07	1.74	1-7/8	2-1/8	2000
J32GRT	2	2-1/2 - 12	2-1/2 - 12	1.78	1.78	2.89	3.06	1.32	2.24	2-1/2	2-3/4	1500



Download CAD Drawing

Straight Thread Branch Tee

J-GBT

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
J2GBT	1/8	5/16 - 24	5/16 - 24	0.06	0.06	0.77	0.94	0.43	0.63	7/16	7/16	5000
J3GBT	3/16	3/8 - 24	3/8 - 24	0.13	0.13	0.83	0.94	0.46	0.61	7/16	1/2	5000
J4GBT	1/4	7/16 - 20	7/16 - 20	0.17	0.17	0.89	1.03	0.54	0.64	7/16	9/16	5000
J5GBT	5/16	1/2 - 20	1/2 - 20	0.23	0.23	0.95	1.13	0.54	0.70	9/16	5/8	5000
J6GBT	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.06	1.25	0.54	0.82	9/16	11/16	5000
J8GBT	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.25	1.45	0.64	0.96	3/4	7/8	5000
J10GBT	5/8	7/8 - 14	7/8 - 14	0.48	0.48	1.45	1.70	0.74	1.14	7/8	1	4500
J12GBT	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.66	1.94	0.85	1.29	1-1/16	1-1/4	4000
J14GBT	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	1.73	2.00	0.88	1.35	1-5/16	1-3/8	3000
J16GBT	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	1.81	2.05	0.90	1.40	1-5/16	1-1/2	3000
J20GBT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	1.08	2.06	2.25	0.94	1.60	1-5/8	1-7/8	2500
J24GBT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	1.31	2.33	2.39	1.07	1.74	1-7/8	2-1/8	2000
J32GBT	2	2-1/2 - 12	2-1/2 - 12	1.78	1.78	3.06	2.89	1.32	2.24	2-1/2	2-3/4	1500

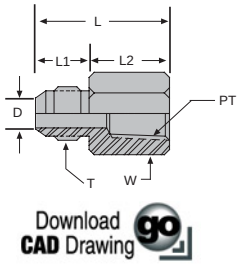
Pressure Ratings Based on ASME B31.3 Power Piping Code

Female Connector

J-FC

Tube to Female Pipe

Connects fractional or metric flared tube to male NPT thread



Download CAD Drawing

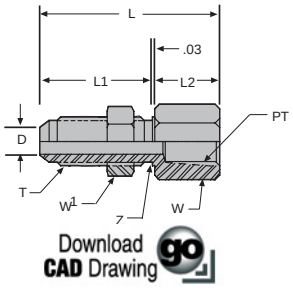
SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure	Brass Working Pressure
J2FC	1/8	5/16 - 24	1/8 - 27	0.06	1.12	0.45	0.67	9/16	6000	
J3FC	3/16	3/8 - 24	1/8 - 27	0.13	1.13	0.48	0.65	9/16	6000	
J4FC	1/4	7/16 - 20	1/8 - 27	0.17	1.19	0.55	0.64	9/16	6000	3250
J4-4FC	1/4	7/16 - 20	1/4 - 18	0.17	1.38	0.55	0.83	3/4	6000	3250
J5FC	5/16	1/2 - 20	1/8 - 27	0.23	1.17	0.55	0.62	9/16	6000	
J5-4FC	5/16	1/2 - 20	1/4 - 18	0.23	1.34	0.55	0.79	3/4	6000	
J6FC	3/8	9/16 - 18	1/4 - 18	0.30	1.40	0.56	0.84	3/4	6000	3250
J6-6FC	3/8	9/16 - 18	3/8 - 18	0.30	1.41	0.56	0.85	7/8	6000	3250
J8FC	1/2	3/4 - 16	3/8 - 18	0.39	1.56	0.66	0.90	7/8	6000	
J8-4FC	1/2	3/4 - 16	1/4 - 18	0.39	1.55	0.61	0.89	13/16	6000	
J8-8FC	1/2	3/4 - 16	1/2 - 14	0.39	1.75	0.66	1.09	1-1/8	6000	
J10FC	5/8	7/8 - 14	1/2 - 14	0.48	1.89	0.76	1.13	1-1/8	6000	
J12FC	3/4	1-1/16 - 12	3/4 - 14	0.61	2.06	0.86	1.05	1-3/8	4800	2600
J12-8FC	3/4	1-1/16 - 12	1/2 - 14	0.61	1.91	0.86	1.20	1-1/8	5400	
J14FC	7/8	1-3/16 - 12	3/4 - 14	0.72	2.06	0.89	1.17	1-3/8	4200	2275
J16FC	1	1-5/16 - 12	1 - 11-1/2	0.84	2.35	0.91	1.46	1-5/8	3600	1950
J20FC	1-1/4	1-5/8 - 12	1-1/4 - 11-1/2	1.08	2.49	0.96	1.53	2	3000	
J24FC	1-1/2	1-7/8 - 12	1-1/2 - 11-1/2	1.31	2.62	1.08	1.54	2-3/8	2400	
J32FC	2	2-1/2 - 12	2 - 11-1/2	1.78	2.97	1.33	1.64	2-7/8	1800	

Bulkhead Female Connector

J-BFC

Tube to Female Pipe

Connects fractional or metric flared tube to male NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	L	L1	L2	W1 Hex	W Hex	Z	SS Working Pressure
J4BFC	1/4	7/16 - 20	1/8 - 27	0.17	1.84	1.20	0.61	11/16	11/16	0.44	6000
J4-4BFC	1/4	7/16 - 20	1/4 - 18	0.17	2.03	1.20	0.80	3/4	11/16	0.44	6000
J6BFC	3/8	9/16 - 18	1/4 - 18	0.30	2.12	1.28	0.81	13/16	13/16	0.56	6000
J6-6BFC	3/8	9/16 - 18	3/8 - 18	0.30	2.13	1.28	0.82	7/8	13/16	0.56	6000
J8BFC	1/2	3/4 - 16	3/8 - 18	0.39	2.34	1.44	0.87	1	1	0.75	6000
J8-8BFC	1/2	3/4 - 16	1/2 - 14	0.39	2.53	1.44	1.06	1-1/8	1	0.75	6000
J10BFC	5/8	7/8 - 14	1/2 - 14	0.48	2.71	1.58	1.10	1-1/8	1-1/8	0.88	6000
J12BFC	3/4	1-1/16 - 12	3/4 - 14	0.61	2.80	1.75	1.02	1-3/8	1-3/8	1.06	4800
J16BFC	1	1-5/16 - 12	1 - 11-1/2	0.84	3.21	1.75	1.43	1-5/8	1-5/8	1.31	3600

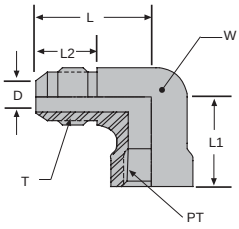
Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Female Elbow

J-FE

Tube to Female Pipe
Connects fractional or metric flared tube to male NPT thread



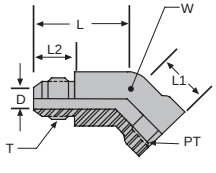
Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure
J2FE	1/8	1/8 - 27	1/8 - 24	0.06	1.00	0.66	0.43	9/16	5000
J3FE	3/16	1/8 - 27	3/8 - 24	0.13	1.03	0.66	0.46	9/16	5000
J4FE	1/4	1/8 - 27	7/16 - 20	0.17	1.08	0.66	0.54	9/16	5000
J4-4FE	1/4	1/4 - 18	7/16 - 20	0.17	1.23	0.88	0.54	3/4	5000
J5FE	5/16	1/8 - 27	1/2 - 20	0.23	1.08	0.66	0.54	9/16	5000
J5-4FE	5/16	1/4 - 18	1/2 - 20	0.23	1.13	0.88	0.54	3/4	5000
J6FE	3/8	1/4 - 18	9/16 - 18	0.30	1.23	0.88	0.54	3/4	5000
J6-2FE	3/8	1/8 - 27	9/16 - 18	0.30	1.23	0.67	0.54	9/16	5000
J6-6FE	3/8	3/8 - 18	9/16 - 18	0.30	1.31	1.02	0.54	7/8	4500
J8FE	1/2	3/8 - 18	3/4 - 16	0.39	1.42	1.02	0.64	7/8	3000
J8-4FE	1/2	1/4 - 18	3/4 - 16	0.39	1.42	1.01	0.64	3/4	5000
J8-8FE	1/2	1/2 - 14	3/4 - 16	0.39	1.52	1.23	0.64	1-1/16	3000
J10FE	5/8	1/2 - 14	7/8 - 14	0.48	1.64	1.23	0.74	1-1/16	3000
J12FE	3/4	3/4 - 14	1-1/16 - 12	0.61	1.89	1.36	0.85	1-5/16	3000
J14FE	7/8	3/4 - 14	1-3/16 - 12	0.72	1.86	1.42	0.88	1-5/16	3000
J16FE	1	1 - 11-1/2	1-5/16 - 12	0.84	2.17	1.62	0.90	1-5/8	1750
J20FE	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.08	2.33	1.70	0.94	1-7/8	1500
J24FE	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.31	2.89	2.08	1.07	2-1/2	1500
J32FE	2	2 - 11-1/2	2-1/2 - 12	1.78	3.30	2.39	1.32	3	1000

45° Female Elbow

J-FE-45

Tube to Female Pipe
Connects fractional or metric flared tube to male NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure
J2FE-45	1/8	1/8 - 27	5/16 - 24	0.06	0.69	0.50	0.43	9/16	5000
J3FE-45	3/16	1/8 - 27	3/8 - 24	0.13	0.69	0.50	0.46	9/16	5000
J4FE-45	1/4	1/8 - 27	7/16 - 20	0.17	0.72	0.50	0.54	9/16	5000
J5FE-45	5/16	1/8 - 27	1/2 - 20	0.23	0.77	0.50	0.54	9/16	5000
J6FE-45	3/8	1/4 - 18	9/16 - 18	0.30	0.83	0.69	0.54	3/4	5000
J8FE-45	1/2	3/8 - 18	3/4 - 16	0.39	0.98	0.75	0.64	7/8	3000
J10FE-45	5/8	1/2 - 14	7/8 - 14	0.48	1.11	0.94	0.74	1-1/16	3000
J12FE-45	3/4	3/4 - 14	1-1/16 - 12	0.61	1.28	1.00	0.85	1-5/16	3000
J14FE-45	7/8	3/4 - 14	1-3/16 - 12	0.72	1.45	1.03	0.88	1-5/16	3000
J16FE-45	1	1 - 11-1/2	1-5/16 - 12	0.84	1.47	1.19	0.90	1-5/8	1750
J20FE-45	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.08	1.59	1.44	0.94	1-7/8	1500
J24FE-45	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.31	1.78	1.46	1.07	2-1/2	1500
J32FE-45	2	2 - 11-1/2	2-1/2 - 12	1.78	2.22	1.59	1.32	3	1000

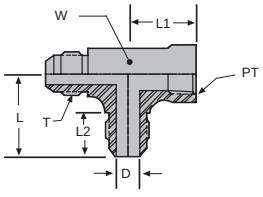
Pressure Ratings Based on ASME B31.3 Power Piping Code

Female Run Tee

J-TFT

Tube to Female Pipe

Connects flared fractional or metric tube to male NPT thread



Download CAD Drawing

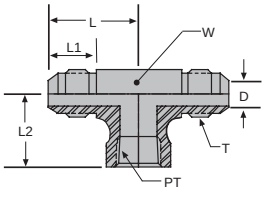
SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure
J2TFT	1/8	1/8 - 27	5/16 - 24	0.06	1.00	0.66	0.43	9/16	5000
J3TFT	3/16	1/8 - 27	3/8 - 24	0.13	1.03	0.66	0.46	9/16	5000
J4TFT	1/4	1/8 - 27	7/16 - 20	0.17	1.08	0.66	0.54	9/16	5000
J4-4-4TFT	1/4	1/4 - 18	7/16 - 20	0.17	1.23	0.88	0.54	3/4	5000
J5TFT	5/16	1/8 - 27	1/2 - 20	0.23	1.08	0.66	0.54	9/16	5000
J6TFT	3/8	1/4 - 18	9/16 - 18	0.30	1.23	0.88	0.54	3/4	5000
J6-6-6TFT	3/8	3/8 - 18	9/16 - 18	0.30	1.31	1.02	0.54	7/8	4500
J8TFT	1/2	3/8 - 18	3/4 - 16	0.39	1.42	1.02	0.64	7/8	3000
J8-8-8TFT	1/2	1/2 - 14	3/4 - 16	0.39	1.52	1.23	0.64	1-1/16	3000
J10TFT	5/8	1/2 - 14	7/8 - 14	0.48	1.64	1.23	0.74	1-1/16	3000
J12TFT	3/4	3/4 - 14	1-1/16 - 12	0.61	1.89	1.36	0.85	1-5/16	3000
J14TFT	7/8	3/4 - 14	1-3/16 - 12	0.72	1.86	1.42	0.88	1-5/16	3000
J16TFT	1	1 - 11-1/2	1-5/16 - 12	0.84	2.17	1.63	0.90	1-5/8	1750
J20TFT	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.08	2.33	1.70	0.94	1-7/8	1500
J24TFT	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.31	2.89	2.08	1.07	2-1/2	1500
J32TFT	2	2 - 11-1/2	2-1/2 - 12	1.78	3.30	2.39	1.32	3	1000

Female Branch Tee

J-TTF

Tube to Female Pipe

Connects flared fractional or metric tube to male NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	W Wrench	SS Working Pressure
J2TTF	1/8	1/8 - 27	5/16 - 24	0.06	1.00	0.43	0.66	9/16	5000
J3TTF	3/16	1/8 - 27	3/8 - 24	0.13	1.03	0.46	0.66	9/16	5000
J4TTF	1/4	1/8 - 27	7/16 - 20	0.17	1.08	0.54	0.66	9/16	5000
J4-4-4TTF	1/4	1/4 - 18	7/16 - 20	0.17	1.23	0.54	0.88	3/4	5000
J5TTF	5/16	1/8 - 27	1/2 - 20	0.23	1.08	0.54	0.66	9/16	5000
J6TTF	3/8	1/4 - 18	9/16 - 18	0.30	1.23	0.54	0.88	3/4	5000
J6-6-6TTF	3/8	3/8 - 18	9/16 - 18	0.30	1.31	0.54	1.02	7/8	4500
J8TTF	1/2	3/8 - 18	3/4 - 16	0.39	1.42	0.64	1.02	7/8	3000
J8-8-8TTF	1/2	1/2 - 14	3/4 - 16	0.39	1.52	0.64	1.23	1-1/16	3000
J10TTF	5/8	1/2 - 14	7/8 - 14	0.48	1.64	0.74	1.23	1-1/16	3000
J12TTF	3/4	3/4 - 14	1-1/16 - 12	0.61	1.89	0.85	1.36	1-5/16	3000
J14TTF	7/8	3/4 - 14	1-3/16 - 12	0.72	1.86	0.88	1.42	1-5/16	3000
J16TTF	1	1 - 11-1/2	1-5/16 - 12	0.84	2.17	0.90	1.63	1-5/8	3000
J20TTF	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.08	2.33	0.94	1.70	1-7/8	1500
J24TTF	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.31	2.89	1.07	2.08	2-1/2	1500
J32TTF	2	2 - 11-1/2	2-1/2 - 12	1.78	3.30	1.32	2.39	3	1000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

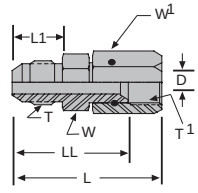
Swivel Nut Connector

J-SC

Tube to Swivel

Connects flared fractional or metric tube to male AN/SAE 37° Flared

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	LL After Inst.	W Hex	W1 Hex	SS Working Pressure
J3SC	3/16	3/8 - 24	3/8 - 24	0.13	1.37	0.48	1.04	7/16	1/2	6000
J4SC	1/4	7/16 - 20	7/16 - 20	0.17	1.46	0.55	1.12	1/2	9/16	6000
J5SC	5/16	1/2 - 20	1/2 - 20	0.23	1.52	0.55	1.15	9/16	5/8	6000
J6SC	3/8	9/16 - 18	9/16 - 18	0.30	1.62	0.56	1.25	5/8	11/16	6000
J8SC	1/2	3/4 - 16	3/4 - 16	0.39	1.82	0.66	1.40	13/16	7/8	6000
J12SC	3/4	1-1/16 - 12	1-1/16 - 12	0.61	2.32	0.86	1.76	1-1/8	1-1/4	6000
J16SC	1	1-5/16 - 12	1-5/16 - 12	0.84	2.45	0.91	1.86	1-3/8	1-1/2	4800



Download CAD Drawing

Swivel nut may be secured by either pinning or crimping to fitting body

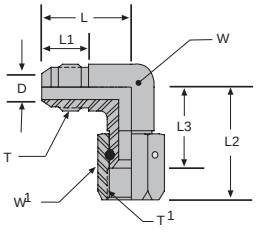
Swivel Nut Elbow

J-SE

Tube to Swivel

Connects flared fractional or metric tube to male AN/SAE 37° Flared

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	L3	W Wrench Flat	W1 Hex	SS Working Pressure
J2SE	1/8	5/16 - 24	5/16 - 24	0.06	0.77	0.43	0.97	0.66	7/16	7/16	5000
J3SE	3/16	3/8 - 24	3/8 - 24	0.13	0.83	0.46	1.00	0.67	7/16	1/2	5000
J4SE	1/4	7/16 - 20	7/16 - 20	0.17	0.89	0.54	1.00	0.66	7/16	9/16	5000
J5SE	5/16	1/2 - 20	1/2 - 20	0.23	0.95	0.54	1.06	0.69	9/16	5/8	5000
J6SE	3/8	9/16 - 18	9/16 - 18	0.30	1.06	0.54	1.25	0.88	9/16	11/16	4500
J8SE	1/2	3/4 - 16	3/4 - 16	0.39	1.25	0.64	1.38	0.96	3/4	7/8	4000
J10SE	5/8	7/8 - 14	7/8 - 14	0.48	1.45	0.74	1.62	1.12	7/8	1	4000
J12SE	3/4	1-1/16 - 12	1-1/16 - 12	0.61	1.66	0.85	1.75	1.19	1-1/16	1-1/4	3500
J16SE	1	1-5/16 - 12	1-5/16 - 12	0.84	1.81	0.90	2.00	1.41	1-5/16	1-1/2	2500
J20SE	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	2.06	0.94	2.31	1.69	1-5/8	2	2500
J24SE	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	2.33	1.07	2.59	1.86	1-7/8	2-1/4	2000
J32SE	2	2-1/2 - 12	2-1/2 - 12	1.78	3.06	1.32	3.38	2.44	2-1/2	2-7/8	1500



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Swivel nut may be secured by either pinning or crimping to fitting body

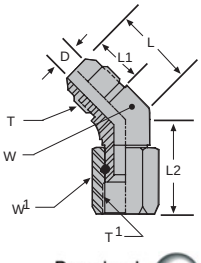
45° Swivel Nut Elbow

J-SE-45

Tube to Swivel

Connects flared fractional or metric tube to male AN/SAE 37° Flared

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	W Wrench Flat	W1 Hex	SS Working Pressure
J2SE-45	1/8	5/16 - 24	5/16 - 24	0.06	0.69	0.43	0.94	7/16	7/16	5000
J3SE-45	3/16	3/8 - 24	3/8 - 24	0.13	0.69	0.46	0.94	7/16	1/2	5000
J4SE-45	1/4	7/16 - 20	7/16 - 20	0.17	0.72	0.54	0.94	7/16	9/16	5000
J5SE-45	5/16	1/2 - 20	1/2 - 20	0.23	0.77	0.54	1.00	9/16	5/8	5000
J6SE-45	3/8	9/16 - 18	9/16 - 18	0.30	0.83	0.54	1.12	9/16	11/16	4500
J8SE-45	1/2	3/4 - 16	3/4 - 16	0.39	0.98	0.64	1.28	3/4	7/8	4000
J10SE-45	5/8	7/8 - 14	7/8 - 14	0.48	1.11	0.74	1.44	7/8	1	4000
J14SE-45	7/8	1-3/16 - 12	1-3/16 - 12	0.72	1.45	0.88	1.62	1-5/16	1-3/8	2500
J16SE-45	1	1-5/16 - 12	1-5/16 - 12	0.84	1.47	0.90	1.75	1-5/16	1-1/2	2500



Download CAD Drawing

Swivel nut may be secured by either pinning or crimping to fitting body

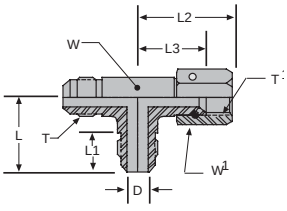
Pressure Ratings Based on ASME B31.3 Power Piping Code

Swivel Nut Run Tee

J-SRT

Tube to Swivel

Connects flared fractional or metric tube to male AN/SAE 37° Flared



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	L3	W Wrench Flat	W1 Hex	SS Working Pressure
J4SRT	1/4	7/16 - 20	7/16 - 20	0.17	0.89	0.54	1.00	0.66	7/16	9/16	5000
J5SRT	5/16	1/2 - 20	1/2 - 20	0.23	0.95	0.54	1.06	0.69	9/16	5/8	5000
J6SRT	3/8	9/16 - 18	9/16 - 18	0.30	1.06	0.54	1.25	0.88	9/16	11/16	4500
J8SRT	1/2	3/4 - 16	3/4 - 16	0.39	1.25	0.64	1.38	0.96	3/4	7/8	4000
J10SRT	5/8	7/8 - 14	7/8 - 14	0.48	1.45	0.74	1.62	1.12	7/8	1	4000
J12SRT	3/4	1-1/16 - 12	1-1/16 - 12	0.61	1.66	0.85	1.75	1.19	1-1/16	1-1/4	3500
J16SRT	1	1-5/16 - 12	1-5/16 - 12	0.84	1.81	0.90	2.00	1.41	1-5/16	1-1/2	2500
J20SRT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	2.06	0.94	2.31	1.69	1-5/8	2	2500
J24SRT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	2.33	1.07	2.59	1.86	1-7/8	2-1/4	2000
J32SRT	2	2-1/2 - 12	2-1/2 - 12	1.78	3.06	1.32	3.38	2.44	2-1/2	2-7/8	1500

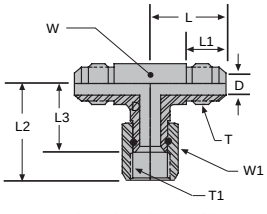
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Branch Tee

J-SBT

Tube to Swivel

Connects flared fractional or metric tube to male AN/SAE 37° Flared



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	L3	W Wrench Flat	W1 Hex	SS Working Pressure
J4SBT	1/4	7/16 - 20	7/16 - 20	0.17	0.89	0.54	1.00	0.66	7/16	9/16	5000
J5SBT	5/16	1/2 - 20	1/2 - 20	0.23	0.95	0.54	1.06	0.69	9/16	5/8	5000
J6SBT	3/8	9/16 - 18	9/16 - 18	0.30	1.06	0.54	1.25	0.88	9/16	11/16	4500
J8SBT	1/2	3/4 - 16	3/4 - 16	0.39	1.25	0.64	1.38	0.96	3/4	7/8	4000
J10SBT	5/8	7/8 - 14	7/8 - 14	0.48	1.45	0.74	1.62	1.12	7/8	1	4000
J12SBT	3/4	1-1/16 - 12	1-1/16 - 12	0.61	1.66	0.85	1.75	1.19	1-1/16	1-1/4	3500
J16SBT	1	1-5/16 - 12	1-5/16 - 12	0.84	1.81	0.90	2.00	1.41	1-5/16	1-1/2	2500
J20SBT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.08	2.06	0.94	2.31	1.69	1-5/8	2	2500
J24SBT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.31	2.33	1.07	2.59	1.86	1-7/8	2-1/4	2000
J32SBT	2	2-1/2 - 12	2-1/2 - 12	1.78	3.06	1.32	3.38	2.44	2-1/2	2-7/8	1500

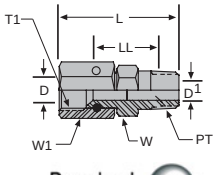
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Male Connector

JS-C

Swivel Adapter

Connects male AN/SAE 37° Flared to female NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T1 Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	LL After Inst.	W Hex	W1 Hex	SS Working Pressure
JS3C	3/16	3/8 - 24	1/8 - 27	0.13	0.13	1.27	0.70	7/16	1/2	6000
JS4C	1/4	7/16 - 20	1/8 - 27	0.17	0.17	1.31	0.73	1/2	9/16	6000
JS4-4C	1/4	7/16 - 20	1/4 - 18	0.17	0.17	1.51	0.83	9/16	9/16	6000
JS5C	5/16	1/2 - 20	1/8 - 27	0.23	0.19	1.38	0.77	9/16	5/8	6000
JS6C	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.54	0.83	5/8	11/16	5400
JS6-6C	3/8	9/16 - 18	3/8 - 18	0.30	0.30	1.58	0.86	3/4	11/16	5400
JS8C	1/2	3/4 - 16	3/8 - 18	0.39	0.39	1.78	1.01	13/16	7/8	4800
JS8-8C	1/2	3/4 - 16	1/2 - 14	0.39	0.39	2.02	1.14	7/8	7/8	4800
JS12C	3/4	1-1/16 - 12	3/4 - 14	0.61	0.61	2.24	1.20	1 - 1/8	1 - 1/4	4200
JS16C	1	1-5/16 - 12	1 - 11-1/2	0.84	0.84	2.51	1.35	1 - 3/8	1 - 1/2	3000
JS16-12C	1	1-5/16 - 12	3/4 - 14	0.84	0.72	2.32	1.25	1 - 3/8	1 - 1/2	3000

Swivel nut may be secured by either pinning or crimping to fitting body

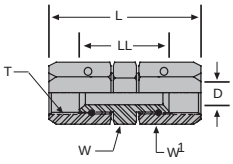
Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Swivel Nut Union

JS-U

Swivel Adapter
Connects male AN/SAE 37° Flared



Download CAD Drawing

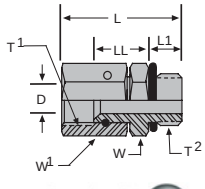
SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	LL After Inst.	W Hex	W1 Hex	SS Working Pressure
JS2U	1/8	5/16 - 24	0.06	1.53	0.91	1/2	7/16	6000
JS3U	3/16	3/8 - 24	0.13	1.73	1.06	7/16	1/2	6000
JS4U	1/4	7/16 - 20	0.17	1.60	0.91	11/16	9/16	6000
JS5U	5/16	1/2 - 20	0.23	1.72	0.97	3/4	5/8	6000
JS6U	3/8	9/16 - 18	0.30	1.88	1.13	13/16	11/16	5400
JS8U	1/2	3/4 - 16	0.39	2.06	1.22	1	7/8	4800
JS10U	5/8	7/8 - 14	0.48	2.28	1.28	1	1	4800
JS12U	3/4	1-1/16 - 12	0.61	2.54	1.42	1 - 1/4	1 - 1/4	4200
JS16U	1	1- 5/16 - 12	0.84	2.69	1.50	1 - 1/2	1 - 1/2	3000
JS20U	1 - 1/4	1-5/8 - 12	1.08	3.02	1.77	2	2	3000
JS24U	1 - 1/2	1-7/8 - 12	1.31	3.31	1.84	2 - 1/4	2 - 1/4	2400
JS32U	2	2-1/2 - 12	1.78	4.21	2.33	2 - 7/8	2 - 7/8	1800

Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Straight Thread Connector

JS-GC

Swivel Adapter
Connects male AN/SAE 37° Flared to female SAE/MS straight thread



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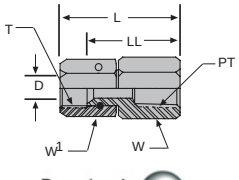
SSP Part Number	Tube O.D.	T1 Thread	T2 Thread	D Through Hole	L	L1	LL After Inst.	W Hex	W1 Hex	SS Working Pressure
JS3GC	3/16	3/8 - 24	3/8 - 24	0.13	1.25	0.30	0.62	1/2	1/2	6000
JS4GC	1/4	7/16 - 20	7/16 - 20	0.17	1.33	0.36	0.63	9/16	9/16	6000
JS5GC	5/16	1/2 - 20	1/2 - 20	0.23	1.39	0.36	0.66	5/8	5/8	6000
JS6GC	3/8	9/16 - 18	9/16 - 18	0.30	1.51	0.39	0.75	11/16	11/16	5400
JS8GC	1/2	3/4 - 16	3/4 - 16	0.39	1.69	0.44	0.83	7/8	7/8	4800
JS10GC	5/8	7/8 - 14	7/8 - 14	0.48	1.88	0.50	0.88	1	1	4800
JS12GC	3/4	1-1/16 - 12	1-1/16 - 12	0.61	2.14	0.59	0.99	1 - 1/4	1 - 1/4	4200
JS16GC	1	1-5/16 - 12	1-5/16 - 12	0.84	2.25	0.59	1.07	1 - 1/2	1 - 1/2	3000

Swivel nut may be secured by either pinning or crimping to fitting body.

Swivel Nut Female Connector

JS-FC

Swivel Adapter
Connects male AN/SAE 37° Flared to male NPT thread



Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	L	LL After Inst.	W Hex	W1 Hex	SS Working Pressure
JS4FC	1/4	1/8 - 27	7/16 - 20	0.17	1.33	0.98	9/16	9/16	6000
JS4-4FC	1/4	1/4 - 18	7/16 - 20	0.17	1.52	1.17	3/4	9/16	6000
JS5FC	5/16	1/8 - 27	1/2 - 20	0.23	1.37	1.00	9/16	5/8	6000
JS6FC	3/8	1/4 - 18	9/16 - 18	0.30	1.65	1.28	3/4	11/16	5400
JS6-6FC	3/8	3/8 - 18	9/16 - 18	0.30	1.66	1.29	7/8	11/16	5400
JS8FC	1/2	3/8 - 18	3/4 - 16	0.39	1.81	1.38	7/8	7/8	4800
JS8-8FC	1/2	1/2 - 14	3/4 - 16	0.39	2.00	1.57	1 - 1/8	7/8	4800
JS10FC	5/8	1/2 - 14	7/8 - 14	0.48	2.11	1.61	1 - 1/8	1	4800
JS12FC	3/4	3/4 - 14	1-1/16 - 12	0.61	2.28	1.72	1 - 3/8	1 - 1/4	4200
JS16FC	1	1 - 11-1/2	1- 5/16 - 12	0.84	2.62	2.02	1 - 5/8	1 - 1/2	3000

Swivel nut may be secured by either pinning or crimping to fitting body

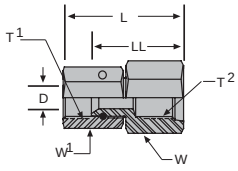
Pressure Ratings Based on ASME B31.3 Power Piping Code

Swivel Nut Female Port Connector

JS-FP

Swivel Adapter

Connects male AN/SAE 37° Flared to male SAE/MS straight thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T1 Thread	T2 Thread	D Through Hole	L	LL After Inst.	W Hex	W1 Hex	SS Working Pressure
JS4-4FP	1/4	7/16 - 20	7/16 - 20	0.17	1.30	0.96	11/16	9/16	5000
JS6-6FP	3/8	9/16 - 18	9/16 - 18	0.30	1.52	1.15	13/16	11/16	4500
JS8-8FP	1/2	3/4 - 16	3/4 - 16	0.39	1.84	1.42	1 - 1/16	7/8	4000
JS10-10FP	5/8	7/8 - 14	7/8 - 14	0.48	1.97	1.47	1 - 1/8	1	4000
JS12-12FP	3/4	1-1/16 - 12	1-1/16 - 12	0.61	2.14	1.58	1 - 3/8	1 - 1/4	3500
JS16-16FP	1	1- 5/16 - 12	1- 5/16 - 12	0.84	2.43	1.84	1 - 5/8	1 - 1/2	2500
JS20-20FP	1 - 1/4	1-5/8 - 12	1-5/8 - 12	1.08	2.55	1.93	2 - 1/8	2	2500

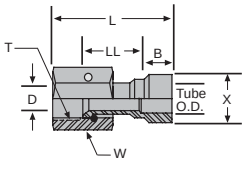
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Socket Connector

JS-SWS

Swivel Adapter

Connects male AN/SAE 37° Flared to weld tube



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	B	D Through Hole	L	LL After Inst.	W Hex	X	SS Working Pressure
JS2SWS	1/8	5/16 - 24	0.16	0.06	1.19	0.68	7/16	0.38	5000
JS4SWS	1/4	7/16 - 20	0.25	0.17	1.34	0.69	9/16	0.44	5000
JS6SWS	3/8	9/16 - 18	0.34	0.30	1.53	0.75	11/16	0.63	4500
JS8SWS	1/2	3/4 - 16	0.41	0.39	1.73	0.83	7/8	0.75	4000
JS10SWS	5/8	7/8 - 14	0.47	0.48	2.00	0.95	1	0.88	4000
JS12SWS	3/4	1-1/16 - 12	0.50	0.61	2.19	1.05	1 - 1/4	1.06	3500
JS16SWS	1	1-5/16 - 12	0.56	0.84	2.38	1.14	1 - 1/2	1.31	2500
JS20SWS	1 - 1/4	1-5/8 - 12	0.66	1.08	2.56	1.28	2	1.56	2500
JS24SWS	1 - 1/2	1-7/8 - 12	0.68	1.31	2.80	1.36	2 - 1/4	1.94	2000
JS32SWS	2	2-1/2 - 12	0.70	1.78	3.38	1.74	2 - 7/8	2.56	1500

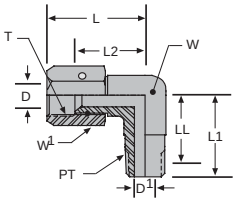
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Male Elbow

JS-ME

Swivel Adapter

Connects male AN/SAE 37° Flared to female NPT thread



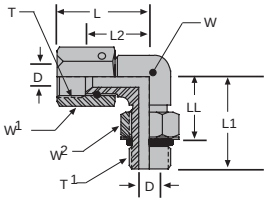
Download CAD Drawing

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
JS2ME	1/8	1/8 - 27	5/16 - 24	0.06	0.19	0.97	0,72	0.66	0.48	7/16	7/16	5000
JS4ME	1/4	1/8 - 27	7/16 - 20	0.17	0.19	1.00	0.78	0.66	0.54	7/16	9/16	5000
JS4-4ME	1/4	1/4 - 18	7/16 - 20	0.17	0.28	1.16	1.09	0.82	0.75	9/16	9/16	5000
JS6ME	3/8	1/4 - 18	9/16 - 18	0.30	0.28	1.25	1.09	0.88	0.75	9/16	11/16	4500
JS6-6ME	3/8	3/8 - 18	9/16 - 18	0.30	0.41	1.33	1.22	0.96	0.87	3/4	11/16	4500
JS8ME	1/2	3/8 - 18	3/4 - 16	0.39	0.41	1.38	1.22	0.96	0.87	3/4	7/8	4000
JS8-8ME	1/2	1/2 - 14	3/4 - 16	0.39	0.53	1.46	1.47	1.04	1.01	7/8	7/8	4000
JS12ME	3/4	3/4 - 14	1-1/16 - 12	0.61	0.72	1.75	1.59	1.19	1.11	1 - 1/16	1 - 1/4	3500

Swivel nut may be secured by either pinning or crimping to fitting body

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared



Download CAD Drawing

Swivel Nut Straight Thread Elbow

JS-GE

Swivel Adapter

Connects male AN/SAE 37° Flared to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	W2 Hex	SS Working Pressure
JS2GE	1/8	5/16 - 24	5/16 - 24	0.06	0.97	0.94	0.66	0.63	7/16	7/16	7/16	5000
JS3GE	3/16	3/8 - 24	3/8 - 24	0.13	1.00	0.94	0.67	0.61	7/16	1/2	1/2	5000
JS4GE	1/4	7/16 - 20	7/16 - 20	0.17	1.00	1.03	0.66	0.64	7/16	9/16	9/16	4500
JS5GE	5/16	1/2 - 20	1/2 - 20	0.23	1.06	1.13	0.69	0.70	9/16	5/8	5/8	4000
JS6GE	3/8	9/16 - 18	9/16 - 18	0.30	1.25	1.25	0.88	0.82	9/16	11/16	11/16	4000
JS8GE	1/2	3/4 - 16	3/4 - 16	0.39	1.38	1.45	0.96	0.96	3/4	7/8	7/8	4000
JS10GE	5/8	7/8 - 14	7/8 - 14	0.48	1.62	1.70	1.12	1.14	7/8	1	1	4000
JS12GE	3/4	1-1/16 - 12	1-1/16 - 12	0.61	1.75	1.94	1.19	1.29	1 - 1/16	1 - 1/4	1 - 1/4	3500
JS14GE	7/8	1-3/16 - 12	1-3/16 - 12	0.72	1.78	2.00	1.20	1.35	1 - 5/16	1 - 3/8	1 - 3/8	2500
JS16GE	1	1- 5/16 - 12	1- 5/16 - 12	0.84	2.00	2.05	1.41	1.40	1 - 5/16	1 - 1/2	1 - 1/2	2500
JS20GE	1 - 1/4	1-5/8 - 12	1-5/8 - 12	1.08	2.31	2.25	1.69	1.60	1 - 5/8	2	1 - 7/8	2500
JS24GE	1 - 1/2	1-7/8 - 12	1-7/8 - 12	1.31	2.59	2.39	1.86	1.74	1 - 7/8	2 - 1/4	2 - 1/8	2000
JS32GE	2	2-1/2 - 12	2-1/2 - 12	1.78	3.38	2.89	2.44	2.24	2 - 1/2	2 - 7/8	2 - 3/4	1500

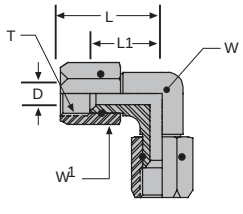
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Elbow

JS-E

Swivel Adapter

Connects male AN/SAE 37° Flared



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	W1 Hex	SS Working Pressure
JS2E	1/8	5/16 - 24	0.06	0.97	0.66	7/16	7/16	5000
JS3E	3/16	3/8 - 24	0.13	1.00	0.67	7/16	1/2	5000
JS4E	1/4	7/16 - 20	0.17	1.00	0.66	7/16	9/16	5000
JS5E	5/16	1/2 - 20	0.23	1.06	0.79	9/16	5/8	5000
JS6E	3/8	9/16 - 18	0.30	1.25	0.88	9/16	11/16	4500
JS8E	1/2	3/4 - 16	0.39	1.38	0.96	3/4	7/8	4000
JS10E	5/8	7/8 - 14	0.48	1.62	1.12	7/8	1	4000
JS12E	3/4	1-1/16 - 12	0.61	1.75	1.19	1 - 1/16	1 - 1/4	3500
JS14E	7/8	1-3/16 - 12	0.72	1.78	1.20	1 - 5/16	1 - 3/8	2500
JS16E	1	1-5/16 - 12	0.84	2.00	1.41	1 - 5/16	1 - 1/2	2500
JS20E	1 - 1/4	1-5/8 - 12	1.08	2.31	1.69	1 - 5/8	2	2500
JS24E	1 - 1/2	1-7/8 - 12	1.31	2.59	1.86	1 - 7/8	2 - 1/4	2000
JS32E	2	2-1/2 - 12	1.78	3.38	2.44	2 - 1/2	2 - 7/8	1500

Swivel nut may be secured by either pinning or crimping to fitting body

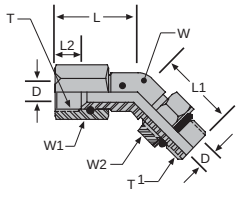
Pressure Ratings Based on ASME B31.3 Power Piping Code

45° Swivel Nut Straight Thread Elbow

JS-GE-45

Swivel Adapter

Connects male AN/SAE 37° Flared to female SAE/MS straight thread



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	W Wrench Flat	W1 Hex	W2 Hex	SS Working Pressure
JS2GE-45	1/8	5/16 - 24	5/16 - 24	0.06	0.94	0.88	0.31	7/16	7/16	7/16	5000
JS3GE-45	3/16	3/8 - 24	3/8 - 24	0.13	0.94	0.88	0.33	7/16	1/2	1/2	5000
JS4GE-45	1/4	7/16 - 20	7/16 - 20	0.17	0.94	1.05	0.34	7/16	9/16	9/16	5000
JS5GE-45	5/16	1/2 - 20	1/2 - 20	0.23	1.00	1.05	0.38	9/16	5/8	5/8	5000
JS6GE-45	3/8	9/16 - 18	9/16 - 18	0.30	1.12	1.14	0.38	9/16	11/16	11/16	4500
JS8GE-45	1/2	3/4 - 16	3/4 - 16	0.39	1.28	1.30	0.42	3/4	7/8	7/8	4000
JS10GE-45	5/8	7/8 - 14	7/8 - 14	0.48	1.44	1.52	0.50	7/8	1	1	4000
JS12GE-45	3/4	1-1/16 - 12	1-1/16 - 12	0.61	1.50	1.73	0.56	1 - 1/16	1 - 1/4	1 - 1/4	3500
JS14GE-45	7/8	1-3/16 - 12	1-3/16 - 12	0.72	1.62	1.86	0.58	1 - 5/16	1 - 3/8	1 - 3/8	2500
JS16GE-45	1	1-5/16 - 12	1-5/16 - 12	0.84	1.75	1.86	0.59	1 - 5/16	1 - 1/2	1 - 1/2	2500
JS20GE-45	1 - 1/4	1-5/8 - 12	1-5/8 - 12	1.08	2.03	1.91	0.63	1 - 5/8	2	1 - 7/8	2500
JS24GE-45	1 - 1/2	1-7/8 - 12	1-7/8 - 12	1.31	2.75	1.91	0.73	1 - 7/8	2 - 1/4	2 - 1/8	2000
JS32GE-45	2	2-1/2 - 12	2-1/2 - 12	1.78	2.91	1.86	0.94	2 - 1/2	2 - 7/8	2 - 3/4	1500

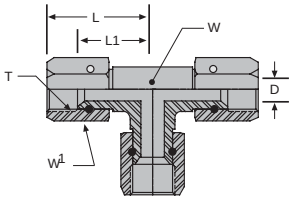
Swivel nut may be secured by either pinning or crimping to fitting body

Swivel Nut Tee

JS-T

Swivel Adapter

Connects male AN/SAE 37° Flared



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	W1 Hex	SS Working Pressure
JS2T	1/8	5/16 - 24	0.06	0.97	0.66	7/16	7/16	5000
JS3T	3/16	3/8 - 24	0.13	1.00	0.67	7/16	1/2	5000
JS4T	1/4	7/16 - 20	0.17	1.00	0.66	7/16	9/16	5000
JS5T	5/16	1/2 - 20	0.23	1.06	0.79	9/16	5/8	5000
JS6T	3/8	9/16 - 18	0.30	1.25	0.88	9/16	11/16	4500
JS8T	1/2	3/4 - 16	0.39	1.38	0.96	3/4	7/8	4000
JS10T	5/8	7/8 - 14	0.48	1.62	1.12	7/8	1	4000
JS12T	3/4	1-1/16 - 12	0.61	1.75	1.19	1 - 1/16	1 - 1/4	3500
JS14T	7/8	1-3/16 - 12	0.72	1.78	1.20	1 - 5/16	1 - 3/8	2500
JS16T	1	1-5/16 - 12	0.84	2.00	1.41	1 - 5/16	1 - 1/2	2500
JS20T	1 - 1/4	1-5/8 - 12	1.08	2.31	1.69	1 - 5/8	2	2500
JS24T	1 - 1/2	1-7/8 - 12	1.31	2.59	1.86	1 - 7/8	2 - 1/4	2000
JS32T	2	2-1/2 - 12	1.78	3.38	2.44	2 - 1/2	2 - 7/8	1500

Swivel nut may be secured by either pinning or crimping to fitting body

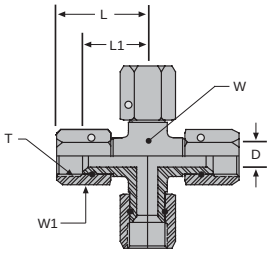
Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Swivel Nut Cross

JS-X

Swivel Adapter
Connects male AN/SAE 37° Flared



Download CAD Drawing

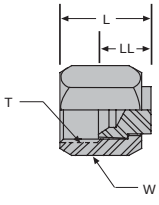
SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	W1 Hex	SS Working Pressure
JS2X	1/8	5/16 - 24	0.06	0.97	0.66	7/16	7/16	5000
JS3X	3/16	3/8 - 24	0.13	1.00	0.67	7/16	1/2	5000
JS4X	1/4	7/16 - 20	0.17	1.00	0.66	7/16	9/16	5000
JS5X	5/16	1/2 - 20	0.23	1.06	0.79	9/16	5/8	5000
JS6X	3/8	9/16 - 18	0.30	1.25	0.88	9/16	11/16	4500
JS8X	1/2	3/4 - 16	0.39	1.38	0.96	3/4	7/8	4000
JS10X	5/8	7/8 - 14	0.48	1.62	1.12	7/8	1	4000
JS12X	3/4	1-1/16 - 12	0.61	1.75	1.19	1 - 1/16	1 - 1/4	3500
JS14X	7/8	1-3/16 - 12	0.72	1.78	1.20	1 - 5/16	1 - 3/8	2500
JS16X	1	1-5/16 - 12	0.84	2.00	1.41	1 - 5/16	1 - 1/2	2500
JS20X	1 - 1/4	1-5/8 - 12	1.08	2.31	1.69	1 - 5/8	2	2500
JS24X	1 - 1/2	1-7/8 - 12	1.31	2.59	1.86	1 - 7/8	2 - 1/4	2000
JS32X	2	2-1/2 - 12	1.78	3.38	2.44	2 - 1/2	2 - 7/8	1500

Swivel nut may be secured by either pinning or crimping to fitting body

Cap (2-piece)

AJ-Z-2

Cap
Caps male AN/SAE 37° Flare



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	L	LL After Inst.	W Hex	SS Working Pressure	Brass Working Pressure
AJ2Z-2	1/8	5/16 - 24	0.60	0.38	3/8	6000	3250
AJ3Z-2	3/16	3/8 - 24	0.66	0.38	7/16	6000	
AJ4Z-2	1/4	7/16 - 20	0.67	0.34	9/16	6000	3250
AJ5Z-2	5/16	1/2 - 20	0.77	0.41	5/8	6000	
AJ6Z-2	3/8	9/16 - 18	0.81	0.47	11/16	6000	3250
AJ8Z-2	1/2	3/4 - 16	0.94	0.53	7/8	6000	3250
AJ10Z-2	5/8	7/8 - 14	1.07	0.53	1	6000	
AJ12Z-2	3/4	1-1/16 - 12	1.24	0.66	1-1/4	6000	3250
AJ14Z-2	7/8	1-3/8 - 12	1.26	0.63	1-3/8	4800	
AJ16Z-2	1	1-5/16 - 12	1.29	0.63	1-1/2	4800	2000
AJ20Z-2	1-1/4	1-5/8 - 12	1.39	0.75	2	3600	
AJ24Z-2	1-1/2	1-7/8 - 12	1.70	0.94	2-1/4	2400	
AJ32Z-2	2	2-1/2 - 12	2.07	1.10	2-7/8	1800	

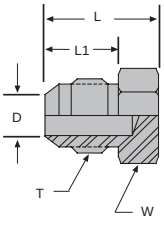
Pressure Ratings Based on ASME B31.3 Power Piping Code

Plug

J-P

Plug

Plugs female AN/SAE 37° Flared swivel or fractional/metric tube



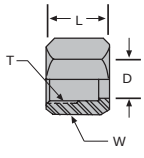
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
J2P	1/8	5/16 - 24	0.06	0.70	0.45	7/16	6000
J3P	3/16	3/8 - 24	0.13	0.73	0.48	7/16	6000
J4P	1/4	7/16 - 20	0.17	0.80	0.55	1/2	6000
J5P	5/16	1/2 - 20	0.23	0.80	0.55	9/16	6000
J6P	3/8	9/16 - 18	0.30	0.84	0.56	5/8	6000
J8P	1/2	3/4 - 16	0.39	0.94	0.66	13/16	6000
J10P	5/8	7/8 - 14	0.48	1.10	0.76	15/16	6000
J12P	3/4	1-1/16 - 12	0.61	1.28	0.86	1-1/8	6000
J14P	7/8	1-3/8 - 12	0.72	1.31	0.89	1-1/4	4800
J16P	1	1-5/16 - 12	0.84	1.33	0.91	1-3/8	4800
J20P	1-1/4	1-5/8 - 12	1.08	1.45	0.96	1-11/16	3600
J24P	1-1/2	1-7/8 - 12	1.31	1.65	1.08	2	2400
J32P	2	2-1/2 - 12	1.78	2.05	1.33	2-5/8	1800

Nut

J-N

Component



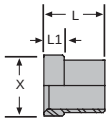
Download CAD Drawing

SSP Part Number	Tube O.D.	Tube O.D. (mm)	T Thread	D Through Hole	L	W Hex
J2N	1/8		5/16 - 24	0.18	0.54	3/8
J3N	3/16		3/8 - 24	0.24	0.60	7/16
J4N	1/4	6	7/16 - 20	0.31	0.61	9/16
J5N	5/16	8	1/2 - 20	0.38	0.67	5/8
J6N	3/8	10	9/16 - 18	0.44	0.72	11/16
J8N	1/2	12	3/4 - 16	0.57	0.84	7/8
J10N	5/8	14,15,16	7/8 - 14	0.70	0.97	1
J12N	3/4	18	1-1/16 - 12	0.84	1.02	1-1/4
J14N	7/8		1-3/8 - 12	0.96	1.08	1-3/8
J16N	1	25	1-5/16 - 12	1.09	1.12	1-1/2
J20N	1-1/4	30	1-5/8 - 12	1.35	1.22	2
J24N	1-1/2	38	1-7/8 - 12	1.62	1.41	2-1/4
J32N	2		2-1/2 - 12	2.17	1.74	2-7/8
C20N		20	1-1/16 - 12	22.12mm	25.9mm	31.75mm

Sleeve

J-S

Component



Download CAD Drawing

SSP Part Number	Tube O.D.	L	L1	X
J2S	1/8	0.34	0.12	0.27
J3S	3/16	0.34	0.14	0.33
J4S	1/4	0.41	0.14	0.38
J5S	5/16	0.44	0.16	0.45
J6S	3/8	0.50	0.17	0.50
J8S	1/2	0.56	0.22	0.68
J10S	5/8	0.66	0.24	0.80
J12S	3/4	0.68	0.26	0.97
J14S	7/8	0.76	0.26	1.10
J16S	1	0.78	0.28	1.22
J20S	1-1/4	0.91	0.31	1.53
J24S	1-1/2	1.12	0.34	1.78
J32S	2	1.19	0.41	2.41

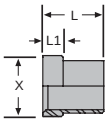
Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE 37° Flared

Metric Sleeve

CS

Component



SSP Part Number	Tube O.D. (mm)	Body Size	Nut Part Number	L	L1	X
C6S	6	4	J4N	0.41	0.14	0.38
C8S	8	5	J5N	0.44	0.16	0.45
C10S	10	6	J6N	0.50	0.17	0.50
C12S	12	8	J8N	0.56	0.22	0.68
C14S	14	10	J10N	0.66	0.24	0.80
C15S	15	10	J10N	0.66	0.24	0.80
C16S	16	10	J10N	0.66	0.24	0.80
C18S	18	12	J12N	0.68	0.26	0.97
C20S	20	12	C20N	0.68	0.26	0.97
C25S	25	16	J16N	0.78	0.28	1.22
C30S	30	-	-	0.91	0.31	1.53
C38S	38	24	J24N	1.12	0.34	1.78

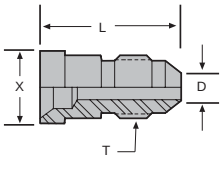
To be used for connecting metric tubing.

Tube End Reducer

J-TER

Component

Connects male AN/SAE 37° Flared to flared fractional or metric tube



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	LL After Inst.	X	SS Working Pressure
J4-2TER	1/4 - 1/8	5/16 - 24	0.06	0.70	0.38	6000
J6-4TER	3/8 - 1/4	7/16 - 20	0.17	0.97	0.50	6000
J8-4TER	1/2 - 1/4	7/16 - 20	0.17	1.00	0.68	6000
J8-6TER	1/2 - 3/8	9/16 - 18	0.30	1.00	0.68	6000
J10-4TER	5/8 - 1/4	7/16 - 20	0.17	1.03	0.80	6000
J10-6TER	5/8 - 3/8	9/16 - 18	0.30	1.03	0.80	6000
J12-4TER	3/4 - 1/4	7/16 - 20	0.17	1.09	0.97	6000
J12-6TER	3/4 - 3/8	9/16 - 18	0.30	1.09	0.97	6000
J12-8TER	3/4 - 1/2	3/4 - 16	0.39	1.19	0.97	6000
J14-8TER	7/8 - 1/2	3/4 - 16	0.39	1.23	1.09	4800
J14-10TER	7/8 - 5/8	7/8 - 14	0.48	1.33	1.09	4800
J16-4TER	1 - 1/4	7/16 - 20	0.17	1.16	1.22	4800
J16-6TER	1 - 3/8	9/16 - 18	0.30	1.16	1.22	4800
J16-8TER	1 - 1/2	3/4 - 16	0.39	1.26	1.22	4800
J16-12TER	1 - 3/4	1-1/16 - 12	0.61	1.47	1.22	4800
J20-8TER	1-1/4 - 1/2	3/4 - 16	0.39	1.38	1.53	3600
J20-12TER	1-1/4 - 3/4	1-1/16 - 12	0.61	1.53	1.53	3600
J20-16TER	1-1/4 - 1	1-5/16 - 12	0.84	1.59	1.53	3600
J24-8TER	1-1/2 - 1/2	3/4 - 16	0.39	1.39	1.78	3600
J24-12TER	1-1/2 - 3/4	1-1/16 - 12	0.61	1.63	1.78	3600
J24-16TER	1-1/2 - 1	1-5/16 - 12	0.84	1.63	1.78	3600
J24-20TER	1-1/2 - 1-1/4	1-5/8 - 12	1.08	1.69	1.78	3600
J32-12TER	2 - 3/4	1-1/16 - 12	0.61	1.93	2.41	1800
J32-16TER	2 - 1	1-5/16 - 12	0.84	1.97	2.41	1800
J32-20TER	2 - 1-1/4	1-5/8 - 12	1.08	2.07	2.41	1800
J32-24TER	2 - 1-1/2	1-7/8 - 12	1.31	2.15	2.41	1800

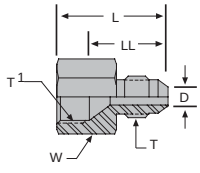
Pressure Ratings Based on ASME B31.3 Power Piping Code

Tube End Reducer (one piece)

J-TER1

Component

Connects male AN/SAE 37° Flared to flared fractional or metric tube

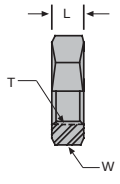


SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	LL After Inst.	W Hex	SS Working Pressure
J4-3TER	1/4 - 3/16	3/8 - 24	7/16 - 20	0.13	1.07	0.74	9/16	6000
J5-4TER	5/16 - 1/4	7/16 - 20	1/2 - 20	0.17	1.18	0.82	5/8	6000
J6-5TER	3/8 - 5/16	1/2 - 20	9/16 - 18	0.23	1.18	0.83	11/16	6000
J10-8TER	5/8 - 1/2	3/4 - 16	7/8 - 14	0.39	1.44	0.64	1	6000
J12-10TER	3/4 - 5/8	7/8 - 14	1-1/16 - 12	0.48	1.68	1.16	1-1/4	6000
J14-12TER	7/8 - 3/4	1-1/16 - 12	1-3/16 - 12	0.61	1.84	1.31	1-3/8	4800
J16-14TER	1 - 7/8	1-3/16 - 12	1-5/16 - 12	0.72	1.91	1.35	1-1/2	4800

Bulkhead Locknut

BN

Component



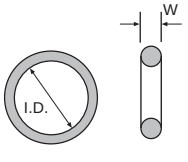
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	W Hex	L
2BN	1/8	5/16 - 24	9/16	0.22
3BN	3/16	3/8 - 24	5/8	0.22
4BN	1/4	7/16 - 20	11/16	0.25
5BN	5/16	1/2 - 20	3/4	0.25
6BN	3/8	9/16 - 18	13/16	0.27
8BN	1/2	3/4 - 16	1.00	0.31
10BN	5/8	7/8 - 14	1-1/8	0.36
12BN	3/4	1-1/16 - 12	1-3/8	0.41
14BN	7/8	1-3/8 - 12	1-1/2	0.41
16BN	1	1-5/16 - 12	1-5/8	0.41
20BN	1-1/4	1-5/8 - 12	1-7/8	0.41
24BN	1-1/2	1-7/8 - 12	2-1/2	0.41
32BN	2	2-1/2 - 12	2-3/4	0.41

Straight Thread Boss O-Ring

R

Component



Download CAD Drawing

SSP Part Number	Part Number Viton	SAE Size	Tube O.D.	I.D.	W
2R	2VR	3-902	1/8	0.24	0.06
3R	3VR	3-903	3/16	0.30	0.06
4R	4VR	3-904	1/4	0.35	0.07
5R	5VR	3-905	5/16	0.41	0.07
6R	6VR	3-906	3/8	0.47	0.08
8R	8VR	3-908	1/2	0.64	0.09
10R	10VR	3-910	5/8	0.76	0.10
12R	12VR	3-912	3/4	0.92	0.12
14R	14VR	3-914	7/8	1.05	0.12
16R	16VR	3-916	1	1.17	0.12
20R	20VR	3-920	1-1/4	1.48	0.12
24R	24VR	3-924	1-1/2	1.72	0.12
32R	32VR	3-932	2	2.34	0.12

Standard material is Buna

Pressure Ratings Based on ASME B31.3 Power Piping Code

UltraFlare

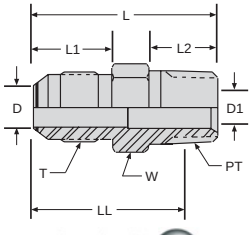
Male Connector

GJ-C

Tube to Pipe

Connects flared fractional or metric tube to female NTP thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst	W Hex	SS Working Pressure
GJ4C	1/4	7/16 - 20	1/8 - 27	0.17	0.17	1.22	0.55	0.38	0.98	1/2	9600
GJ4-4C	1/4	7/16 - 20	1/4 - 18	0.17	0.17	1.42	0.55	0.56	1.08	9/16	9600
GJ6C	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.43	0.56	0.56	1.09	5/8	6900
GJ6-6C	3/8	9/16 - 18	3/8 - 18	0.30	0.30	1.44	0.56	0.56	1.09	3/4	6900
GJ8C	1/2	3/4 - 16	3/8 - 18	0.39	0.39	1.53	0.66	0.56	1.18	13/16	7400
GJ8-8C	1/2	3/4 - 16	1/2 - 14	0.39	0.39	1.78	0.66	0.75	1.32	7/8	7400
GJ12C	3/4	1-1/16 - 12	3/4 - 14	0.61	0.61	2.06	0.86	0.75	1.58	1-1/8	6500
GJ16C	1	1-5/16 - 12	1 - 11-1/2	0.84	0.84	2.30	0.91	0.94	1.73	1-3/8	5300



Download CAD Drawing

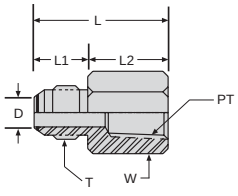
Female Connector

GJ-FC

Tube to Pipe

Connects flared fractional or metric tube to male NPT thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure
GJ4FC	1/4	7/16 - 20	1/8 - 27	0.17	1.19	0.55	0.64	9/16	9600
GJ6FC	3/8	9/16 - 18	1/4 - 18	0.30	1.40	0.56	0.84	3/4	6900
GJ8FC	1/2	3/4 - 16	3/8 - 18	0.39	1.56	0.66	0.90	7/8	7400
GJ12FC	3/4	1-1/16 - 12	3/4 - 14	0.61	2.06	0.86	1.05	1-3/8	6500
GJ16FC	1	1-5/16 - 12	1 - 11-1/2	0.84	2.35	0.91	1.46	1-5/8	5300



Download CAD Drawing

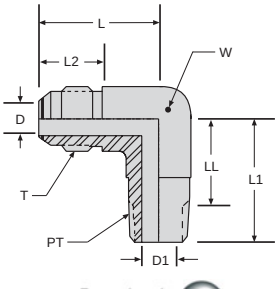
Male Elbow

GJ-ME

Tube to Pipe

Connects flared fractional or metric tube to female NTP thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst	W Wrench Flat	SS Working Pressure
GJ4ME	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	0.78	0.54	0.54	7/16	9600
GJ4-4ME	1/4	7/16 - 20	1/4 - 18	0.17	0.28	1.05	1.09	0.54	0.75	9/16	9600
GJ6ME	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	1.09	0.54	0.75	9/16	6900
GJ6-6ME	3/8	9/16 - 18	3/8 - 18	0.30	0.41	1.14	1.22	0.54	0.87	3/4	6900
GJ8ME	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	1.22	0.64	0.87	3/4	7400
GJ8-8ME	1/2	3/4 - 16	1/2 - 14	0.39	0.53	1.33	1.47	0.64	1.01	7/8	7400
GJ12ME	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	1.59	0.85	1.11	1-1/16	6500
GJ16ME	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.81	1.97	0.90	1.40	1-5/16	5300



Download CAD Drawing

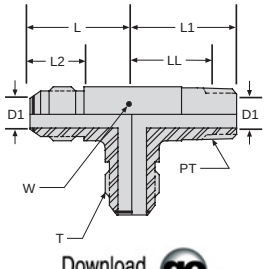
Male Run Tee

GJ-TMT

Tube to Pipe

Connects flared fractional or metric tube to female NTP thread

SSP Part Number	Tube O.D.	T Thread	PT Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst	W Wrench Flat	SS Working Pressure
GJ4TMT	1/4	7/16 - 20	1/8 - 27	0.17	0.19	0.89	0.78	0.54	0.54	7/16	9600
GJ6TMT	3/8	9/16 - 18	1/4 - 18	0.30	0.28	1.06	1.09	0.54	0.75	9/16	6900
GJ8TMT	1/2	3/4 - 16	3/8 - 18	0.39	0.41	1.25	1.22	0.64	0.87	3/4	7400
GJ12TMT	3/4	1-1/16 - 12	3/4 - 14	0.61	0.72	1.66	1.59	0.85	1.11	1-1/16	6500
GJ16TMT	1	1-5/16 - 12	1 - 11-1/2	0.84	0.94	1.81	1.97	0.90	1.40	1-5/16	5300



Download CAD Drawing

Pressure Ratings Based on ASME B31.3 Power Piping Code

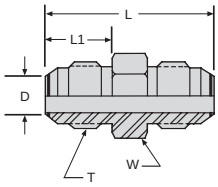
UltraFlare

Union

GJ-U

Tube to Tube Union
Connects flared fractional or metric tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
GJ4U	1/4	7/16 - 20	0.17	1.37	0.55	1/2	9600
GJ6U	3/8	9/16 - 18	0.30	1.41	0.56	5/8	6900
GJ8U	1/2	3/4 - 16	0.39	1.62	0.66	13/16	7400
GJ12U	3/4	1-1/16 - 12	0.61	2.16	0.86	1-1/8	6500
GJ16U	1	1-5/16 - 12	0.84	2.25	0.91	1-3/8	5300



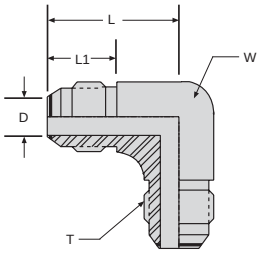
Download CAD Drawing

Elbow

GJ-E

Tube to Tube Union
Connects flared fractional or metric tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure
GJ4E	1/4	7/16 - 20	0.17	0 89	0.54	7/16	9600
GJ6E	3/8	9/16 - 18	0.30	1.06	0.54	9/16	6900
GJ8E	1/2	3/4 - 16	0.39	1.25	0.64	3/4	7400
GJ12E	3/4	1-1/16 - 12	0.61	1.66	0.85	1-1/16	6500
GJ16E	1	1-5/6 - 12	0.84	1.81	0.90	1-5/16	5300



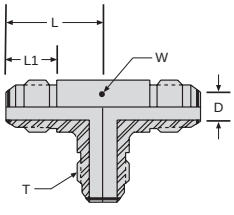
Download CAD Drawing

Tee

GJ-T

Tube to Tube Union
Connects flared fractional or metric tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure
GJ4T	1/4	7/16 - 20	0.17	0 89	0.54	7/16	9600
GJ6T	3/8	9/16 - 18	0.30	1.06	0.54	9/16	6900
GJ8T	1/2	3/4 - 16	0.39	1.25	0.64	3/4	7400
GJ12T	3/4	1-1/16 - 12	0.61	1.66	0.85	1-1/16	6500
GJ16T	1	1-5/6 - 12	0.84	1.81	0.90	1-5/16	5300



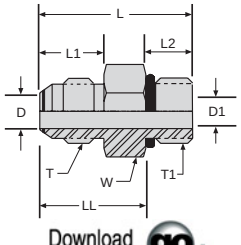
Download CAD Drawing

Straight Thread Connector

GJ-GC

Tube to O-Ring Boss
Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After nst	W Hex	SS Working Pressure
GJ4GC	1/4	7/16 - 20	7/16 - 20	0.17	0.17	1.23	0.55	0.36	0.87	9/16	9600
GJ6GC	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.30	0.56	0.36	0.91	11/16	6900
GJ6-4GC	3/8	9/16 - 18	7/16 - 20	0.30	0.17	1.29	0.56	0.36	0.93	5/8	6900
GJ8GC	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.48	0.66	0.44	1.04	7/8	7400
GJ8-6GC	1/2	3/4 - 16	9/16 - 18	0.39	0.30	1.38	0.66	0.39	0.99	13/16	7400
GJ12GC	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.97	0.86	0.59	1.38	1-1/4	6500
GJ16GC	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	2.04	0.91	0.59	1.45	1-1/2	5300



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Pressure Ratings Based on ASME B31.3 Power Piping Code

UltraFlare

Straight Thread Elbow

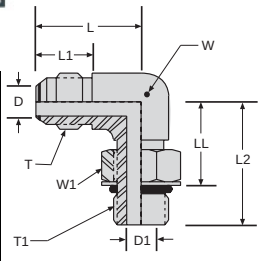
Download CAD Drawing

GJ-GE

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LI After Inst	W Wrench Flat	W1 Hex	SS Working Pressure
GJ4GE	1/4	7/16 - 20	7/16 - 20	0.17	0.17	0.89	0.54	1.03	0.64	7/16	9/16	9600
GJ6GE	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.06	0.54	1.25	0.82	9/16	11/16	6900
GJ8GE	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.25	0.64	1.45	0.96	3/4	7/8	7400
GJ12GE	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.66	0.85	1.94	1.29	1-1/16	1-1/4	6500
GJ16GE	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	1.81	0.90	2.05	1.40	1-5/16	1-1/2	5300



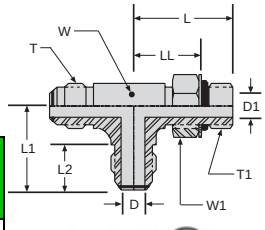
Straight Thread Run Tee

GJ-GRT

Tube to O-Ring Boss

Connects flared fractional or metric tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	L	L1	L2	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
GJ4GRT	1/4	7/16 - 20	7/16 - 20	0.17	0.17	1.03	0.89	0.54	0.64	7/16	9/16	9600
GJ6GRT	3/8	9/16 - 18	9/16 - 18	0.30	0.30	1.25	1.06	0.54	0.82	9/16	11/16	6900
GJ8GRT	1/2	3/4 - 16	3/4 - 16	0.39	0.39	1.45	1.25	0.64	0.96	3/4	7/8	7400
GJ12GRT	3/4	1-1/16 - 12	1-1/16 - 12	0.61	0.61	1.94	1.66	0.85	1.29	1-1/16	1-1/4	6500
GJ16GRT	1	1-5/16 - 12	1-5/16 - 12	0.84	0.84	2.05	1.81	0.90	1.40	1-5/16	1-1/2	5300



Download CAD Drawing

Swivel Nut Elbow

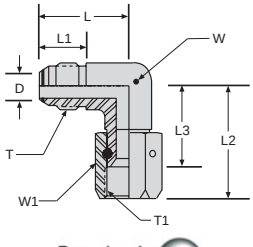
GJ-SE

Tube to Swivel Nut

Connects flared fractional or metric tube to male AN/SAE 37° Flared

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	L	L1	L2	L3	W Wrench Flat	W1 Hex	SS Working Pressure
GJ4SE	1/4	7/16 - 20	7/16 - 20	0.17	0.89	0.54	1.00	0.66	7/16	9/16	9600
GJ6SE	3/8	9/16 - 18	9/16 - 18	0.30	1.06	0.54	1.25	0.88	9/16	11/16	6900
GJ8SE	1/2	3/4 - 16	3/4 - 16	0.39	1.25	0.64	1.38	0.96	3/4	7/8	7400
GJ12SE	3/4	1-1/16 - 12	1-1/16 - 12	0.61	1.66	0.85	1.75	1.19	1-1/16	1-1/4	6500
GJ16SE	1	1-5/16 - 12	1-5/16 - 12	0.84	1.81	0.90	2.00	1.41	1-5/16	1-1/2	5300

Swivel nut may be secured by either pinning or crimping to fitting body



Download CAD Drawing

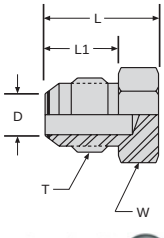
Plug

GJ-P

Plug

Plugs female AN/SAE 37° Flared swivel or fractional/metric tube

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
GJ4P	1/4	7/16 - 20	0.17	0.80	0.55	1/2	9600
GJ6P	3/8	9/16 - 18	0.30	0.84	0.56	5/8	6900
GJ8P	1/2	3/4 - 16	0.39	0.94	0.66	13/16	7400
GJ12P	3/4	1-1/16 - 12	0.61	1.28	0.86	1-1/8	6500
GJ16P	1	1-5/16 - 12	0.84	1.33	0.91	1-3/8	5300



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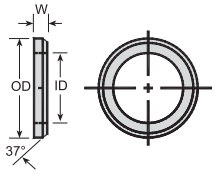
Pressure Ratings Based on ASME B31.3 Power Piping Code

UltraFlare

Teflon Ring

GJ-TR

Component



SSP Part Number	Dash No.	Tube O.D.	ID	OD	W Width
GJ4TR	-4	1/4	0.210	0.251	0.0523
GJ6TR	-6	3/8	0.326	0.391	0.0523
GJ8TR	-8	1/2	0.440	0.505	0.0523
GJ10TR	-10	5/8	0.545	0.610	0.0673
GJ12TR	-12	3/4	0.670	0.735	0.0673
GJ16TR	-16	1	0.953	1.018	0.0673

SAE Flareless

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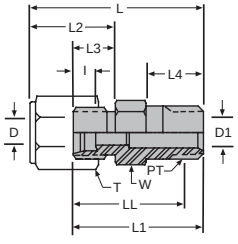

Male Connector

AM-C

Tube to Male Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	L4	LL After Inst.	W Hex	SS Working Pressure	Monel Working Pressure
AM2C	1/8	1/8 - 27	5/16 - 24	0.09	0.09	0.19	1.35	1.04	0.69	0.38	0.38	0.80	7/16	5000	
AM3C	3/16	1/8 - 27	3/8 - 24	0.13	0.13	0.23	1.43	1.09	0.76	0.42	0.38	0.84	7/16	5000	
AM4C	1/4	1/8 - 27	7/16 - 20	0.20	0.19	0.23	1.54	1.12	0.87	0.45	0.38	0.88	1/2	5000	4650
AM4-4C	1/4	1/4 - 18	7/16 - 20	0.20	0.20	0.23	1.74	1.32	0.87	0.45	0.56	0.98	9/16	5000	4650
AM4-6C	1/4	3/8 - 18	7/16 - 20	0.20	0.20	0.23	1.76	1.34	0.87	0.45	0.56	0.99	3/4	5000	4650
AM4-8C	1/4	1/2 - 14	7/16 - 20	0.20	0.20	0.23	2.01	1.59	0.87	0.45	0.75	1.13	7/8	5000	
AM5C	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.23	1.54	1.12	0.87	0.45	0.38	0.88	9/16	5000	
AM5-4C	5/16	1/4 - 18	1/2 - 20	0.23	0.23	0.25	0.17	1.32	0.87	0.45	0.56	0.98	9/16	5000	4650
AM6C	3/8	1/4 - 18	9/16 - 18	0.28	0.28	0.25	1.81	1.34	0.94	0.47	0.56	1.00	5/8	5000	4650
AM6-2C	3/8	1/8 - 27	9/16 - 18	0.28	0.19	0.25	1.62	1.15	0.94	0.47	0.38	0.91	5/8	5000	4650
AM6-6C	3/8	3/8 - 18	9/16 - 18	0.28	0.28	0.25	1.82	1.35	0.94	0.47	0.56	1.00	3/4	5000	4650
AM6-8C	3/8	1/2 - 14	9/16 - 18	0.28	0.28	0.25	2.07	1.60	0.94	0.47	0.75	1.14	7/8	5000	4650
AM8C	1/2	3/8 - 18	3/4 - 16	0.42	0.41	0.31	1.94	1.44	1.06	0.56	0.56	1.09	13/16	5000	4650
AM8-4C	1/2	1/4 - 18	3/4 - 16	0.42	0.28	0.31	1.94	1.44	1.06	0.56	0.56	1.10	13/16	5000	4650
AM8-8C	1/2	1/2 - 14	3/4 - 16	0.42	0.42	0.31	2.19	1.69	1.06	0.56	0.75	1.23	7/8	5000	4650
AM8-12C	1/2	3/4 - 14	3/4 - 16	0.42	0.42	0.31	2.26	1.76	1.06	0.56	0.75	1.28	1-1/8	5000	
AM10C	5/8	1/2 - 14	7/8 - 14	0.50	0.50	0.35	2.28	1.75	1.16	0.63	0.75	1.30	15/16	4500	
AM10-6C	5/8	3/8 - 18	7/8 - 14	0.50	0.41	0.35	2.10	1.57	1.16	0.63	0.56	1.22	15/16	4500	
AM10-12C	5/8	3/4 - 14	7/8 - 14	0.50	0.50	0.35	2.35	1.82	1.16	0.63	0.75	1.34	1-1/8	4000	
AM12C	3/4	3/4 - 14	1-1/16 - 12	0.66	0.66	0.35	2.44	1.88	1.25	0.69	0.75	1.40	1-1/8	4000	3720
AM12-8C	3/4	1/2 - 14	1-1/16 - 12	0.66	0.53	0.35	2.44	1.88	1.25	0.69	0.75	1.42	1-1/8	4000	3720
AM12-16C	3/4	1 - 11-1/2	1-1/16 - 12	0.66	0.66	0.35	2.63	2.07	1.25	0.69	0.94	1.50	1-3/8	3000	
AM14C	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	0.35	2.41	1.88	1.22	0.69	0.75	1.41	1-1/4	3000	
AM16C	1	1 - 11-1/2	1-5/16 - 12	0.88	0.88	0.42	2.73	2.07	1.35	0.69	0.94	1.51	1-3/8	3000	2790
AM16-12C	1	3/4 - 14	1-5/16 - 12	0.88	0.72	0.42	2.55	1.89	1.35	0.69	0.75	1.41	1-3/8	3000	
AM20C	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.09	0.42	2.90	2.18	1.41	0.69	0.97	1.59	1-11/16	2500	
AM20-16C	1-1/4	1 - 11-1/2	1-5/8 - 12	1.09	0.94	0.42	2.87	2.15	1.41	0.69	0.94	1.58	1-11/16	2500	
AM24C	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	1.34	0.49	3.00	2.28	1.41	0.69	1.00	1.68	2	2500	
AM24-20C	1-1/2	1-1/4 - 11-1/2	1-7/8 - 12	1.34	1.25	0.49	2.99	2.27	1.41	0.69	0.97	1.68	2	2500	
AM32C	2	2 - 11-1/2	2-1/2 - 12	1.81	1.81	0.49	3.30	2.46	1.53	0.69	1.03	1.86	2-5/8	2000	
AM32-24C	2	1-1/2 - 11-1/2	2-1/2 - 12	1.81	1.50	0.49	3.06	2.22	1.53	0.69	1.00	1.63	2-5/8	2000	

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

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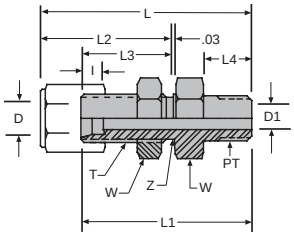


Male Bulkhead Connector

AM-BC

Tube to Male Pipe

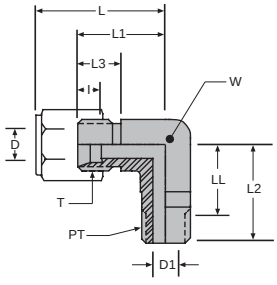
Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	L4	W Hex	Z	SS Working Pressure
AM2BC	1/8	1/8 - 27	5/16 - 24	0.09	0.19	0.19	1.96	1.72	1.33	1.02	0.38	9/16	0.31	5000
AM3BC	3/16	1/8 - 27	3/8 - 24	0.13	0.19	0.23	2.03	1.76	1.40	1.06	0.38	5/8	0.38	5000
AM4BC	1/4	1/8 - 27	7/16 - 20	0.20	1.90	0.23	2.17	1.82	1.54	1.12	0.38	11/16	0.44	5000
AM5BC	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.25	2.17	1.82	1.54	1.12	0.38	3/4	0.50	5000
AM6BC	3/8	1/4 - 18	9/16 - 18	0.28	0.28	0.25	2.30	2.02	1.64	1.17	0.38	13/16	0.56	5000
AM8BC	1/2	3/8 - 18	3/4 - 16	0.42	0.41	0.31	2.65	2.22	1.81	1.31	0.56	1	0.75	5000
AM10BC	5/8	1/2 -14	7/8 - 14	0.50	0.50	0.35	2.88	2.61	1.98	1.45	0.56	1-1/8	0.88	4500
AM12BC	3/4	3/4 - 14	1-1/16 - 12	0.66	0.66	0.35	3.28	2.78	2.12	1.56	0.75	1-3/8	1.06	4500
AM14BC	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	0.35	3.25	2.78	2.09	1.56	0.75	1-1/2	1.19	3000
AM16BC	1	1 - 11-1/2	1-5/16 - 12	0.88	0.88	0.42	3.57	2.97	2.22	1.56	0.94	1-5/8	1.31	3000
AM20BC	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.09	0.42	3.81	3.08	2.38	1.56	0.97	1-7/8	1.63	2500
AM24BC	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	1.34	0.49	3.84	3.18	2.38	1.56	1.00	2-1/8	1.88	2500
AM32BC	2	2 - 11-1/2	2-1/2 - 12	1.81	1.81	0.49	4.35	3.57	2.61	1.77	1.03	2-3/4	2.50	2000

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix “X” to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

Download CAD Drawing



Male Elbow

AM-ME

Tube to Male Pipe

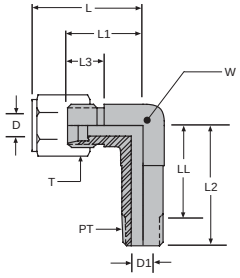
Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	SS Working Pressure
AM2ME	1/8	1/8 - 27	5/16 - 24	0.09	0.19	0.19	1.08	0.77	0.72	0.36	0.48	7/16	5000
AM3ME	3/16	1/8 - 27	3/8 - 24	0.13	0.19	0.23	1.17	0.83	0.72	0.41	0.48	7/16	5000
AM4ME	1/4	1/8 - 27	7/16 - 20	0.20	0.19	0.23	1.31	0.89	0.78	0.44	0.54	7/16	5000
AM4-4ME	1/4	1/4 - 18	7/16 - 20	0.20	0.28	0.23	1.45	1.03	1.09	0.44	0.75	9/16	5000
AM4-6ME	1/4	3/8 - 18	7/16 - 20	0.20	0.41	0.23	1.55	1.12	1.22	0.44	0.87	3/4	5000
AM4-8ME	1/4	1/2 - 14	7/16 - 20	0.20	0.53	0.23	1.55	1.12	1.44	0.44	0.98	7/8	5000
AM5ME	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.25	1.37	0.95	0.81	0.44	0.54	9/16	5000
AM5-4ME	5/16	1/4 - 18	1/2 - 20	0.23	0.28	0.25	1.45	1.03	1.09	0.44	0.75	9/16	5000
AM6ME	3/8	1/4 - 18	9/16 - 18	0.28	0.28	0.25	1.52	1.05	1.09	0.45	0.75	9/16	5000
AM6-2ME	3/8	1/8 - 27	9/16 - 18	0.28	0.19	0.25	1.52	1.05	0.90	0.45	0.66	9/16	5000
AM6-6ME	3/8	3/8 - 18	9/16 - 18	0.28	0.41	0.25	1.61	1.14	1.22	0.45	0.87	3/4	5000
AM6-8ME	3/8	1/2 - 14	9/16 - 18	0.28	0.53	0.25	1.70	1.24	1.47	0.45	1.01	7/8	5000
AM8ME	1/2	3/8 - 18	3/4 - 16	0.42	0.41	0.31	1.75	1.25	1.22	0.55	0.87	3/4	5000
AM8-4ME	1/2	1/4 - 18	3/4 - 16	0.42	0.28	0.31	1.75	1.25	1.22	0.55	0.88	3/4	5000
AM8-8ME	1/2	1/2 - 14	3/4 - 16	0.42	0.53	0.31	1.84	1.35	1.47	0.55	1.01	7/8	5000
AM8-12ME	1/2	3/4 - 14	3/4 - 16	0.42	0.72	0.31	1.92	1.42	1.59	0.55	1.11	1-1/16	4000
AM10ME	5/8	1/2 - 14	7/8 - 14	0.50	0.53	0.35	1.95	1.42	1.47	0.61	1.01	7/8	4500
AM10-6ME	5/8	3/8 - 18	7/8 - 14	0.50	0.41	0.35	1.95	1.42	1.28	0.61	0.93	7/8	4500
AM10-12ME	5/8	3/4 - 14	7/8 - 14	0.50	0.72	0.35	2.11	1.58	1.59	0.61	1.11	1-1/16	4500
AM12ME	3/4	3/4 - 14	1-1/16 - 12	0.66	0.72	0.35	2.14	1.58	1.59	0.67	1.11	1-1/16	4000
AM12-8ME	3/4	1/2 - 14	1-1/16 - 12	0.66	0.53	0.35	2.14	1.43	1.59	0.67	1.13	1-1/16	4000
AM12-16ME	3/4	1 - 11-1/2	1-1/16 - 12	0.66	0.94	0.35	2.29	1.73	1.97	0.67	1.40	1-5/16	4000
AM14ME	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	0.35	2.19	1.66	1.69	0.67	1.21	1-5/16	3000
AM16ME	1	1 - 11-1/2	1-5/16 - 12	0.88	0.94	0.42	2.39	1.73	1.97	0.67	1.40	1-5/16	3000
AM16-12ME	1	3/4 - 14	1-5/16 - 12	0.88	0.72	0.42	2.39	1.73	1.78	0.67	1.30	1-5/16	3000
AM16-20ME	1	1-1/4 - 11-1/2	1-5/16 - 12	0.88	1.25	0.42	2.55	1.89	2.38	0.67	1.79	1-5/8	3000
AM20ME	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.25	0.42	2.61	1.89	2.38	0.67	1.79	1-5/8	2500
AM20-16ME	1-1/4	1 - 11-1/2	1-5/8 - 12	1.09	0.94	0.42	2.61	1.89	2.06	0.67	1.49	1-5/8	2500
AM20-24ME	1-1/4	1-1/2 - 11-1/2	1-5/8 - 12	1.09	1.50	0.42	2.74	2.02	2.64	0.67	2.05	1-7/8	2500
AM24ME	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	1.50	0.49	2.74	2.02	2.64	0.67	2.05	1-7/8	2500
AM24-20ME	1-1/2	1-1/4 - 11-1/2	1-7/8 - 12	1.34	1.25	0.49	2.74	2.02	2.25	0.67	1.66	1-7/8	2500
AM32ME	2	2 - 11-1/2	2-1/2 - 12	1.81	1.94	0.49	3.29	2.45	3.00	0.67	2.39	2-1/2	2000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

Download CAD Drawing



Long Male Elbow

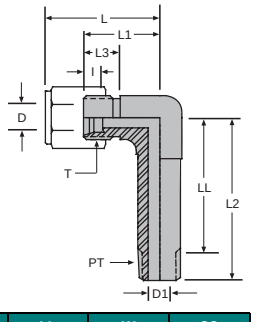
AM-LME

Tube to Male Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	L	L1	L2	L3	LL After Inst.	W Wrench Flat	SS Working Pressure
AM2LME	1/8	1/8 - 27	5/16 - 24	0.09	0.19	1.08	0.77	1.00	0.36	0.76	7/16	5000
AM3LME	3/16	1/8 - 27	3/8 - 24	0.13	0.19	1.17	0.83	1.04	0.41	0.80	7/16	5000
AM4LME	1/4	1/8 - 27	7/16 - 20	0.20	0.19	1.31	0.89	1.17	0.44	0.93	7/16	5000
AM4-4LME	1/4	1/4 - 18	7/16 - 20	0.20	0.28	1.45	1.03	1.58	0.44	1.24	9/16	5000
AM5LME	5/16	1/8 - 27	1/2 - 20	0.23	0.19	1.37	0.95	1.17	0.44	0.93	9/16	5000
AM6LME	3/8	1/4 - 18	9/16 - 18	0.28	0.28	1.52	1.05	1.58	0.45	1.24	9/16	5000
AM6-6LME	3/8	3/8 - 18	9/16 - 18	0.28	0.41	1.61	1.14	1.82	0.45	1.47	3/4	5000
AM8LME	1/2	3/8 - 18	3/4 - 16	0.42	0.41	1.75	1.25	1.82	0.55	1.47	3/4	5000
AAM8-8LME	1/2	1/2 - 14	3/4 - 16	0.42	0.53	1.84	1.34	2.17	0.55	1.71	7/8	5000
AM10LME	5/8	1/2 - 14	7/8 - 14	0.50	0.53	1.95	1.42	2.17	0.61	1.71	7/8	4500
AM12LME	3/4	3/4 - 14	1-1/16 - 12	0.66	0.72	2.14	1.58	2.44	0.67	1.96	1-1/16	4000
AM14LME	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	2.19	1.66	2.59	0.67	2.11	1-5/16	3000
AM16LME	1	1 - 11-1/2	1-5/16 - 12	0.88	0.94	2.39	1.73	3.01	0.67	2.44	1-5/16	3000
AM20LME	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.25	2.61	1.89	3.69	0.67	3.10	1-5/8	2500
AM24LME	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	1.50	2.74	2.02	4.10	0.67	3.51	1-7/8	2500
AM32LME	2	2 - 11-1/2	2-1/2 - 12	1.81	1.94	3.29	2.45	4.81	0.67	4.20	2-1/2	2000

Download CAD Drawing



Extra Long Male Elbow

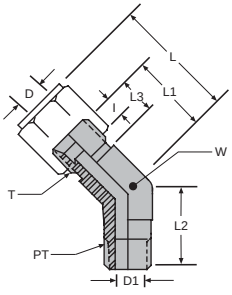
AM-LLME

Tube to Male Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	SS Working Pressure
AM4LLME	1/4	1/8 - 27	7/16 - 20	0.20	0.19	0.23	1.31	0.89	1.56	0.44	1.32	7/16	5000
AM4-4LLME	1/4	1/4 - 18	7/16 - 20	0.20	0.28	0.23	1.45	1.03	2.07	0.44	1.73	9/16	5000
AM5LLME	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.25	1.37	0.95	1.63	0.44	1.39	9/16	5000
AM6LLME	3/8	1/4 - 18	9/16 - 18	0.28	0.28	0.25	1.52	1.05	2.07	0.45	1.73	9/16	5000
AM6-6LLME	3/8	3/8 - 18	9/16 - 18	0.28	0.41	0.25	1.61	1.14	2.42	0.45	2.07	3/4	5000
AM8LLME	1/2	3/8 - 18	3/4 - 16	0.42	0.41	0.31	1.75	1.25	2.42	0.55	2.07	3/4	5000
AM8-8LLME	1/2	1/2 - 14	3/4 - 16	0.42	0.53	0.31	1.84	1.34	2.87	0.55	2.41	7/8	5000
AM10LLME	5/8	1/2 - 14	7/8 - 14	0.50	0.53	0.35	1.95	1.42	2.87	0.61	2.41	7/8	4500
AM12LLME	3/4	3/4 - 14	1-1/16 - 12	0.66	0.72	0.35	2.14	1.58	3.28	0.67	2.80	1-1/16	4000
AM16LLME	1	1 - 11-1/2	1-5/16 - 12	0.88	0.94	0.42	2.39	1.73	4.05	0.67	3.48	1-5/16	3000
AM20LLME	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.25	0.42	2.61	1.89	5.00	0.67	4.41	1-5/8	2500

Pressure Ratings Based on ASME B31.3 Power Piping Code



Download CAD Drawing

45° Male Elbow

AM-ME-45

Tube to Male Pipe

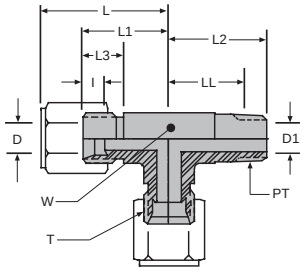
Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	W Wrench Flat	SS Working Pressure
AM2ME-45	1/8	1/8 - 27	5/16 - 24	0.06	0.19	0.19	0.95	0.64	0.52	0.36	7/16	5000
AM3ME-45	3/16	1/8 - 27	3/8 - 24	0.13	0.19	0.23	0.98	0.64	0.52	0.41	7/16	5000
AM4ME-45	1/4	1/8 - 27	7/16 - 20	0.17	0.19	0.23	1.12	0.70	0.64	0.44	7/16	5000
AM4-4ME-45	1/4	1/4 - 18	7/16 - 20	0.17	0.28	0.23	1.23	0.81	0.86	0.44	9/16	5000
AM5ME-45	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.25	1.17	0.75	0.64	0.44	9/16	5000
AM5-4ME-45	5/16	1/4 - 18	1/2 - 20	0.23	0.28	0.25	1.23	0.81	0.86	0.44	9/16	5000
AM6ME-45	3/8	1/4 - 18	9/16 - 18	0.30	0.28	0.25	1.30	0.83	0.86	0.45	9/16	5000
AM6-2ME-45	3/8	1/8 - 27	9/16 - 18	0.30	0.19	0.25	1.30	0.83	0.67	0.45	9/16	5000
AM6-6ME-45	3/8	3/8 - 18	9/16 - 18	0.30	0.41	0.25	1.34	0.87	0.95	0.45	3/4	5000
AM6-8ME-45	3/8	1/2 - 14	9/16 - 18	0.30	0.53	0.25	1.53	1.06	1.17	0.45	7/8	5000
AM8ME-45	1/2	3/8 - 18	3/4 - 16	0.39	0.41	0.31	1.48	0.98	0.95	0.55	3/4	5000
AM8-4ME-45	1/2	1/4 - 18	3/4 - 16	0.39	0.28	0.31	1.48	0.98	0.95	0.55	3/4	5000
AM8-8ME-45	1/2	1/2 - 14	3/4 - 16	0.39	0.53	0.31	1.49	0.99	1.17	0.55	7/8	5000
AM8-12ME-45	1/2	3/4 - 14	3/4 - 16	0.39	0.72	0.31	1.54	1.04	1.20	0.55	1-1/16	4000
AM10ME-45	5/8	1/2 - 14	7/8 - 14	0.48	0.53	0.35	1.61	1.08	1.17	0.61	7/8	4500
AM10-6ME-45	5/8	3/8 - 18	7/8 - 14	0.48	0.41	0.35	1.61	1.08	0.98	0.61	7/8	4500
AM10-12ME-45	5/8	3/4 - 14	7/8 - 14	0.48	0.72	0.35	1.78	1.25	1.20	0.61	1-1/16	4500
AM12ME-45	3/4	3/4 - 14	1-1/16 - 12	0.61	0.72	0.35	1.83	1.27	1.20	0.67	1-1/16	4000
AM12-8ME-45	3/4	1/2 - 14	1-1/16 - 12	0.61	0.53	0.35	1.83	1.27	1.20	0.67	1-1/16	4000
AM12-16ME-45	3/4	1 - 11-1/2	1-1/16 - 12	0.61	0.94	0.35	1.97	1.41	1.48	0.67	1-5/16	4000
AM14ME-45	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	0.35	1.87	1.34	1.27	0.67	1-5/16	4000
AM16ME-45	1	1 - 11-1/2	1-5/16 - 12	0.84	0.94	0.42	2.02	1.36	1.48	0.67	1-5/16	3000
AM16-12ME-45	1	3/4 - 14	1-5/16 - 12	0.84	0.72	0.42	2.02	1.36	1.29	0.67	1-5/16	3000
AM20ME-45	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.08	1.25	0.42	2.17	1.45	1.67	0.67	1-5/8	2500
AM24ME-45	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.31	1.50	0.59	2.24	1.52	1.77	0.67	1-7/8	2500
AM32ME-45	2	2 - 11-1/2	2-1/2 - 12	1.78	1.94	0.59	2.67	1.83	2.11	0.67	2-1/2	2000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

Download CAD Drawing



Male Run Tee

AM-TMT

Tube to Male Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	SS Working Pressure
AM2TMT	1/8	1/8 - 27	5/16 - 24	0.09	0.19	0.19	1.08	0.77	0.72	0.36	0.48	7/16	5000
AM3TMT	3/16	1/8 - 27	3/8 - 24	0.13	0.19	0.23	1.17	0.83	0.72	0.41	0.48	7/16	5000
AM4TMT	1/4	1/8 - 27	7/16 - 20	0.20	0.19	0.23	1.31	0.89	0.78	0.44	0.54	7/16	5000
AM4-4-4TMT	1/4	1/4 - 18	7/16 - 20	0.20	0.28	0.23	1.45	1.03	1.09	0.44	0.75	9/16	5000
AM5TMT	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.25	1.37	0.95	0.78	0.44	0.54	9/16	5000
AM6TMT	3/8	1/4 - 18	9/16 - 18	0.28	0.28	0.25	1.52	1.05	1.09	0.45	0.75	9/16	5000
AM6-6-6TMT	3/8	3/8 - 18	9/16 - 18	0.28	0.41	0.25	1.61	1.14	1.22	0.45	0.87	3/4	5000
AM8TMT	1/2	3/8 - 18	3/4 - 16	0.42	0.41	0.31	1.75	1.25	1.22	0.55	0.87	3/4	5000
AM8-8-8TMT	1/2	1/2 - 14	3/4 - 16	0.42	0.53	0.31	1.84	1.34	1.47	0.55	1.01	7/8	5000
AM10TMT	5/8	1/2 - 14	7/8 - 14	0.50	0.53	0.35	1.95	1.42	1.47	0.61	1.01	7/8	4500
AM12TMT	3/4	3/4 - 14	1-1/16 - 12	0.66	0.72	0.35	2.14	1.58	1.59	0.67	1.11	1-1/16	4000
AM14TMT	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	0.35	2.19	1.66	1.69	0.67	1.21	1-5/16	3000
AM16TMT	1	1 - 11-1/2	1-5/16 - 12	0.88	0.94	0.42	2.39	1.73	1.97	0.67	1.40	1-5/16	3000
AM20TMT	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.25	0.42	2.61	1.89	2.38	0.67	1.79	1-5/8	2500
AM24TMT	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	1.50	0.49	2.74	2.02	2.64	0.67	2.05	1-7/8	2500
AM32TMT	2	2 - 11-1/2	2-1/2 - 12	1.81	1.94	0.49	3.29	2.45	3.00	0.67	2.39	2-1/2	2000

Pressure Ratings Based on ASME B31.3 Power Piping Code

Male Branch Tee

AM-TTM

Tube to Male Pipe
Connects fractional tube to female NPT thread

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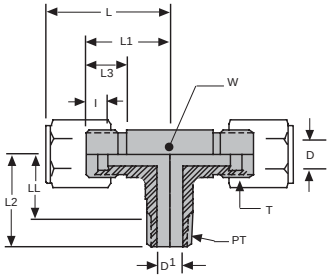
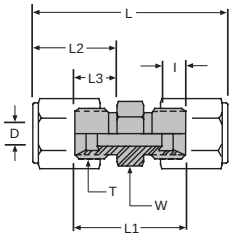


SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	SS Working Pressure
AM2TTM	1/8	1/8 - 27	5/16 - 24	0.09	0.19	0.19	1.08	0.77	0.72	0.36	0.48	7/16	5000
AM3TTM	3/16	1/8 - 27	3/8 - 24	0.13	0.19	0.23	1.17	0.83	0.72	0.41	0.48	7/16	5000
AM4TTM	1/4	1/8 - 27	7/16 - 20	0.20	0.19	0.23	1.31	0.89	0.78	0.44	0.54	7/16	5000
AM4-4-4TTM	1/4	1/4 - 18	7/16 - 20	0.20	0.28	0.23	1.45	1.03	1.09	0.44	0.75	9/16	5000
AM5TTM	5/16	1/8 - 27	1/2 - 20	0.23	0.19	0.25	1.37	0.95	0.78	0.44	0.54	9/16	5000
AM6TTM	3/8	1/4 - 18	9/16 - 18	0.28	0.28	0.25	1.52	1.05	1.09	0.45	0.75	9/16	5000
AM6-6-6TTM	3/8	3/8 - 18	9/16 - 18	0.28	0.41	0.25	1.61	1.14	1.22	0.45	0.87	3/4	5000
AM8TTM	1/2	3/8 - 18	3/4 - 16	0.42	0.41	0.31	1.75	1.25	1.22	0.55	0.87	3/4	5000
AM8-8-8TTM	1/2	1/2 - 14	3/4 - 16	0.42	0.53	0.31	1.84	1.34	1.47	0.55	1.01	7/8	5000
AM10TTM	5/8	1/2 - 14	7/8 - 14	0.50	0.53	0.35	1.95	1.42	1.47	0.61	1.01	7/8	4500
AM12TTM	3/4	3/4 - 14	1-1/16 - 12	0.66	0.72	0.35	2.14	1.58	1.59	0.67	1.11	1-1/16	4000
AM14TTM	7/8	3/4 - 14	1-3/16 - 12	0.72	0.72	0.35	2.19	1.66	1.69	0.67	1.21	1-5/16	3000
AM16TTM	1	1 - 11-1/2	1-5/16 - 12	0.88	0.94	0.42	2.39	1.73	1.97	0.67	1.40	1-5/16	3000
AM20TTM	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	1.25	0.42	2.61	1.89	2.38	0.67	1.79	1-5/8	2500
AM24TTM	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	1.50	0.49	2.74	2.02	2.64	0.67	2.05	1-7/8	2500
AM32TTM	2	2 - 11-1/2	2-1/2 - 12	1.81	1.94	0.49	3.29	2.45	3.00	0.67	2.39	2-1/2	2000

Union

AMU

Tube to Tube Union
Connects fractional tubes



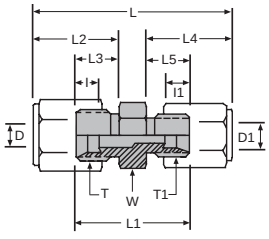
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	L3	W Hex	SS Working Pressure
AM2U	1/8	5/16 - 24	0.09	0.19	1.64	1.02	0.69	0.38	7/16	6000
AM3U	3/16	3/8 - 24	0.13	0.23	1.79	1.11	0.76	0.42	7/16	6000
AM4U	1/4	7/16 - 20	0.20	0.23	2.02	1.18	0.87	0.45	1/2	6000
AM5U	5/16	1/2 - 20	0.23	0.25	2.02	1.18	0.87	0.45	9/16	6000
AM6U	3/8	9/16 - 18	0.28	0.25	2.18	1.24	0.94	0.47	5/8	6000
AM8U	1/2	3/4 - 16	0.42	0.31	2.42	1.42	1.06	0.56	13/16	5000
AM10U	5/8	7/8 - 14	0.50	0.35	2.67	1.61	1.16	0.63	15/16	5000
AM12U	3/4	1-1/16 - 12	0.66	0.35	2.93	1.81	1.25	0.69	1-1/8	4500
AM14U	7/8	1-3/16 - 12	0.72	0.35	2.87	1.81	1.22	0.69	1-1/4	4000
AM16U	1	1-5/16 - 12	0.88	0.42	3.13	1.81	1.35	0.69	1-3/8	4000
AM20U	1-1/4	1-5/8 - 12	1.09	0.42	3.33	1.89	1.41	0.69	1-11/16	3000
AM24U	1-1/2	1-7/8 - 12	1.34	0.49	3.40	1.96	1.41	0.69	2	2000
AM32U	2	2-1/2 - 12	1.81	0.49	3.79	2.11	1.53	0.69	2-5/8	1500

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

Reducing Union



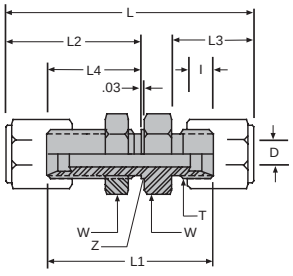
Download CAD Drawing

AM-U

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	I	I1	L	L1	L2	L3	L4	L5	W Hex	SS Working Pressure
AM4-2U	1/4 - 1/8	7/16 - 20	5/16 - 24	0.20	0.09	0.23	0.19	1.84	1.11	0.87	0.45	0.69	0.38	1/2	6000
AM5-4U	5/16 - 1/4	1/2 - 20	7/16 - 20	0.23	0.20	0.25	0.23	2.06	1.12	0.87	0.45	0.87	0.45	9/16	6000
AM6-4U	3/8 - 1/4	9/16 - 18	7/16 - 20	0.28	0.20	0.25	0.23	2.11	1.22	0.94	0.47	0.87	0.45	5/8	6000
AM8-4U	1/2 - 1/4	3/4 - 16	7/16 - 20	0.42	0.20	0.31	0.23	2.23	1.31	1.06	0.56	0.87	0.45	13/16	5000
AM8-6U	1/2 - 3/8	3/4 - 16	9/16 - 18	0.42	0.28	0.31	0.25	2.30	1.33	1.06	0.56	0.94	0.47	13/16	5000
AM10-8U	5/8 - 1/2	7/8 - 14	3/4 - 16	0.50	0.42	0.35	0.31	2.57	1.54	1.16	0.63	1.06	0.56	15/16	5000
AM12-8U	3/4 - 1/2	1-1/16 - 12	3/4 - 16	0.66	0.42	0.35	0.31	2.74	1.68	1.25	0.69	1.06	0.56	1-1/8	4500
AM12-10U	3/4 - 5/8	1-1/16 - 12	7/8 - 14	0.66	0.50	0.35	0.35	2.84	1.75	1.25	0.69	1.16	0.63	1-1/8	4500
AM14-12U	7/8 - 3/4	1-3/16 - 12	1-1/16 - 12	0.72	0.66	0.35	0.35	2.85	1.76	1.22	0.69	1.25	0.69	1-1/4	4000
AM16-12U	1 - 3/4	1-5/16 - 12	1-1/16 - 12	0.88	0.66	0.42	0.35	3.03	1.81	1.35	0.69	1.25	0.69	1-3/8	4000
AM20-16U	1-1/4 - 1	1-5/8 - 12	1-5/16 - 12	1.09	0.88	0.42	0.42	3.27	1.89	1.41	0.69	1.35	0.69	1-11/16	3000
AM24-16U	1-1/2 - 1	1-7/8 - 12	1-5/16 - 12	1.34	0.88	0.49	0.42	3.34	1.96	1.41	0.69	1.35	0.69	2	2000
AM24-20U	1-1/2 - 1-1/4	1-7/8 - 12	1-5/8 - 12	1.34	1.09	0.49	0.42	3.40	1.96	1.41	0.69	1.41	0.69	2	2000
AM32-24U	2 - 1-1/2	2-1/2 - 12	1-7/8 - 12	1.81	1.34	0.49	0.49	3.67	2.11	1.53	0.69	1.41	0.69	2-5/8	1500

Bulkhead Union



Download CAD Drawing

AM-BU

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	L3	L4	W Hex	Z	SS Working Pressure
AM2BU	1/8	5/16 - 24	0.09	0.19	2.33	1.71	1.33	0.69	1.02	9/16	0.31	6000
AM3BU	3/16	3/8 - 24	0.13	0.23	2.48	1.80	1.40	0.76	1.06	5/8	0.38	6000
AM4BU	1/4	7/16 - 20	0.20	0.23	2.73	1.89	1.54	0.87	1.12	11/16	0.44	6000
AM5BU	5/16	1/2 - 20	0.23	0.25	2.73	1.89	1.54	0.87	1.12	3/4	0.50	6000
AM6BU	3/8	9/16 - 18	0.28	0.25	2.92	1.98	1.64	0.94	1.17	13/16	0.56	6000
AM8BU	1/2	3/4 - 16	0.42	0.31	3.22	2.22	1.81	1.06	1.31	1	0.75	5000
AM10BU	5/8	7/8 - 14	0.50	0.35	3.54	2.48	1.98	1.16	1.45	1-1/8	0.88	5000
AM12BU	3/4	1-1/16 - 12	0.66	0.35	3.84	2.72	2.12	1.25	1.56	1-3/8	1.06	4500
AM14BU	7/8	1-3/16 - 12	0.72	0.35	3.78	2.72	2.09	1.22	1.56	1-1/2	1.19	4000
AM16BU	1	1-5/16 - 12	0.88	0.42	4.04	2.72	2.22	1.35	1.56	1-5/8	1.31	4000
AM20BU	1-1/4	1-5/8 - 12	1.09	0.42	4.24	2.80	2.28	1.41	1.56	1-7/8	1.63	3000
AM24BU	1-1/2	1-7/8 - 12	1.34	0.49	4.31	2.87	2.28	1.41	1.56	2-1/8	1.88	2000
AM32BU	2	2-1/2 - 12	1.81	0.49	4.91	3.23	2.61	1.53	1.77	2-3/4	2.50	1500

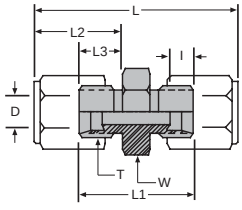
Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

Large Hex Union

AMLHU

Tube to Tube Union
Connects fractional tubes



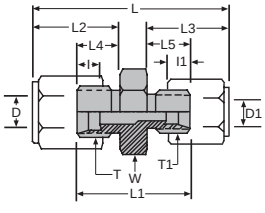
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	L3	W Hex	SS Working Pressure
AM2LHU	1/8	5/16 - 24	0.09	0.19	1.64	1.02	0.69	0.38	9/16	6000
AM3LHU	3/16	3/8 - 24	0.13	0.23	1.79	1.11	0.76	0.42	5/8	6000
AM4LHU	1/4	7/16 - 20	0.20	0.23	2.02	1.18	0.87	0.45	11/16	6000
AM5LHU	5/16	1/2 - 20	0.23	0.25	2.02	1.18	0.87	0.45	3/4	6000
AM6LHU	3/8	9/16 - 18	0.28	0.25	2.18	1.24	0.94	0.47	13/16	6000
AM8LHU	1/2	3/4 - 16	0.42	0.31	2.42	1.42	1.06	0.56	1	5000
AM10LHU	5/8	7/8 - 14	0.50	0.35	2.67	1.61	1.16	0.63	1-1/8	5000
AM12LHU	3/4	1-1/16 - 12	0.66	0.35	2.93	1.81	1.25	0.69	1-3/8	4500
AM16LHU	1	1-5/16 - 12	0.88	0.42	3.13	1.81	1.35	0.69	1-5/8	4000
AM20LHU	1-1/4	1-5/8 - 12	1.09	0.42	3.33	1.89	1.41	0.69	1-7/8	3000
AM24LHU	1-1/2	1-7/8 - 12	1.34	0.49	3.40	1.96	1.41	0.69	2-1/8	2000
AM32LHU	2	2-1/2 - 12	1.81	0.49	3.79	2.11	1.53	0.69	2-3/4	1500

Reducing Large Hex Union

AM-LHU

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	I	I1	L	L1	L2	L3	L4	L5	W Hex	SS Working Pressure
AM4-2LHU	1/4 - 1/8	7/16 - 20	5/16 - 24	0.20	0.09	0.23	0.19	1.84	1.11	0.87	0.69	0.45	0.38	11/16	6000
AM6-4LHU	3/8 - 1/4	9/16 - 18	7/16 - 20	0.28	0.20	0.25	0.23	2.11	1.22	0.94	0.87	0.47	0.45	13/16	6000
AM8-4LHU	1/2 - 1/4	3/4 - 16	7/16 - 20	0.42	0.20	0.31	0.23	2.23	1.31	1.06	0.87	0.56	0.45	1	5000
AM8-6LHU	1/2 - 3/8	3/4 - 16	9/16 - 18	0.42	0.28	0.31	0.25	2.30	1.33	1.06	0.94	0.56	0.47	1	5000
AM10-8LHU	5/8 - 1/2	7/8 - 14	3/4 - 16	0.50	0.42	0.35	0.31	2.57	1.54	1.16	1.06	0.63	0.56	1-1/8	5000
AM12-6LHU	3/4 - 3/8	1-1/16 - 12	9/16 - 18	0.66	0.28	0.35	0.25	2.62	1.59	1.25	0.94	0.69	0.47	1-3/8	4500
AM12-8LHU	3/4 - 1/2	1-1/16 - 12	3/4 - 16	0.66	0.42	0.35	0.31	2.74	1.68	1.25	1.06	0.69	0.56	1-3/8	4500
AM12-10LHU	3/4 - 5/8	1-1/16 - 12	7/8 - 14	0.66	0.50	0.35	0.35	2.84	1.75	1.25	1.16	0.69	0.63	1-5/8	4500
AM16-8LHU	1 - 1/2	1-5/16 - 12	3/4 - 16	0.88	0.42	0.42	0.31	2.84	1.68	1.35	1.06	0.69	0.56	1-5/8	4000
AM16-12LHU	1 - 3/4	1-5/16 - 12	1-1/16 - 12	0.88	0.66	0.42	0.35	3.03	1.81	1.35	1.25	0.69	0.69	1-5/8	4000
AM20-16LHU	1-1/4 - 1	1-5/8 - 12	1-5/16 - 12	1.09	0.88	0.42	0.42	3.27	1.89	1.41	1.35	0.69	0.69	1-7/8	3000
AM24-16LHU	1-1/2 - 1	1-7/8 - 12	1-5/16 - 12	1.34	0.88	0.49	0.42	3.34	1.96	1.41	1.35	0.69	0.69	2-1/8	2000

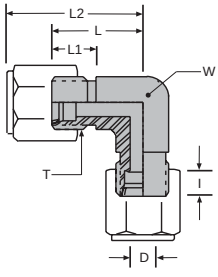
Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

Elbow

AM-E

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

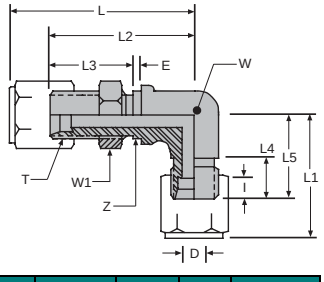
SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	W Wrench Flat	SS Working Pressure	Monel Working Pressure
AM2E	1/8	5/16 - 24	0.09	0.19	0.77	0.36	1.08	7/16	5000	
AM3E	3/16	3/8 - 24	0.13	0.23	0.83	0.41	1.17	7/16	5000	
AM4E	1/4	7/16 - 20	0.20	0.23	0.89	0.44	1.31	7/16	5000	4675
AM5E	5/16	1/2 - 20	0.23	0.25	0.95	0.44	1.37	9/16	5000	
AM6E	3/8	9/16 - 18	0.28	0.25	1.05	0.45	1.52	9/16	5000	4675
AM8E	1/2	3/4 - 16	0.42	0.31	1.25	0.55	1.75	3/4	5000	4675
AM10E	5/8	7/8 - 14	0.50	0.35	1.42	0.61	1.95	7/8	4500	
AM12E	3/4	1-1/16 - 12	0.66	0.35	1.58	0.67	2.14	1-1/16	4000	3740
AM14E	7/8	1-3/16 - 12	0.72	0.35	1.66	0.67	2.19	1-5/16	3000	
AM16E	1	1-5/6 - 12	0.88	0.42	1.73	0.67	2.39	1-5/16	3000	
AM20E	1-1/4	1-5/8 - 12	1.09	0.42	1.89	0.67	2.61	1-5/8	2500	
AM24E	1-1/2	1-7/8 - 12	1.34	0.49	2.02	0.67	2.74	1-7/8	2000	
AM32E	2	2-1/2 - 12	1.81	0.49	2.45	0.67	3.29	2-1/2	1500	

Bulkhead Union Elbow

AM-BE

Tube to Tube Union
Connects fractional tubes

Download CAD Drawing



SSP Part Number	Tube O.D.	T Thread	D Through Hole	E	I	L	L1	L2	L3	L4	L5	W Wrench Flat	W1 Hex	Z	SS Working Pressure
AM2BE	1/8	5/16 - 24	0.09	0.09	0.19	1.67	1.08	1.36	0.83	0.36	0.80	7/16	9/16	0.31	5000
AM3BE	3/16	3/8 - 24	0.13	0.09	0.23	1.78	1.17	1.44	0.88	0.41	0.94	7/16	5/8	0.38	5000
AM4BE	1/4	7/16 - 20	0.20	0.09	0.23	1.94	1.31	1.52	0.94	0.44	0.95	7/16	11/16	0.44	5000
AM5BE	5/16	1/2 - 20	0.23	0.09	0.25	2.08	1.37	1.66	0.94	0.44	1.05	9/16	3/4	0.50	5000
AM6BE	3/8	9/16 - 18	0.28	0.09	0.25	2.17	1.52	1.70	0.98	0.45	1.08	9/16	13/16	0.56	5000
AM8BE	1/2	3/4 - 16	0.42	0.13	0.31	2.47	1.75	1.97	1.12	0.55	1.33	3/4	1	0.75	5000
AM10BE	5/8	7/8 - 14	0.50	0.13	0.35	2.80	1.95	2.27	1.27	0.61	1.52	7/8	1-1/8	0.88	4500
AM12BE	3/4	1-1/16 - 12	0.66	0.13	0.35	3.04	2.14	2.48	1.38	0.67	1.64	1-1/16	1-3/8	1.06	4000
AM14BE	7/8	1-3/16 - 12	0.72	0.13	0.35	3.08	2.19	2.55	1.38	0.67	1.70	1-5/16	1-1/2	1.19	3000
AM16BE	1	1-5/16 - 12	0.88	0.13	0.42	3.27	2.39	2.61	1.38	0.67	1.73	1-5/16	1-5/8	1.31	3000
AM20BE	1-1/4	1-5/8 - 12	1.09	0.13	0.42	3.61	2.61	2.89	1.38	0.67	2.02	1-5/8	1-7/8	1.63	2500
AM24BE	1-1/2	1-7/8 - 12	1.34	0.13	0.49	3.89	2.74	3.17	1.38	0.67	2.20	1-7/8	2-1/8	1.88	2000
AM32BE	2	2-1/2 - 12	1.81	0.13	0.49	4.61	3.29	3.77	1.38	0.67	2.39	2-1/2	2-3/4	2.50	1500

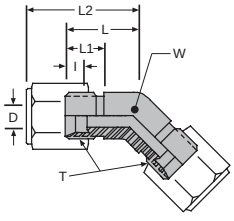
Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix “X” to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

45° Union Elbow

AM-E-45

Tube to Tube Union
Connects fractional tubes



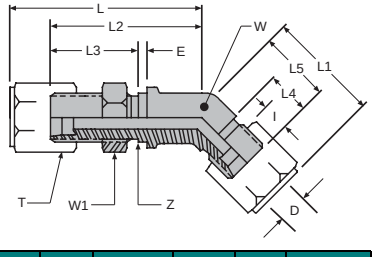
Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	W Wrench Flat	SS Working Pressure
AM2E-45	1/8	5/16 - 24	0.09	0.19	0.64	0.36	0.95	7/16	5000
AM3E-45	3/16	3/8 - 24	0.13	0.23	0.64	0.41	0.98	7/16	5000
AM4E-45	1/4	7/16 - 20	0.20	0.23	0.70	0.44	1.12	7/16	5000
AM5E-45	5/16	1/2 - 20	0.23	0.25	0.75	0.44	1.17	9/16	5000
AM6E-45	3/8	9/16 - 18	0.28	0.25	0.83	0.45	1.30	9/16	5000
AM8E-45	1/2	3/4 - 16	0.42	0.31	0.98	0.55	1.48	3/4	5000
AM10E-45	5/8	7/8 - 14	0.50	0.35	1.08	0.61	1.61	7/8	4500
AM12E-45	3/4	1-1/16 - 12	0.66	0.35	1.27	0.67	1.83	1-1/16	4000
AM14E-45	7/8	1-3/16 - 12	0.72	0.35	1.34	0.67	1.87	1-5/16	3000
AM16E-45	1	1-5/16 - 12	0.88	0.42	1.36	0.67	2.02	1-5/16	3000
AM20E-45	1-1/4	1-5/8 - 12	1.09	0.42	1.45	0.67	2.17	1-5/8	2500
AM24E-45	1-1/2	1-7/8 - 12	1.34	0.49	1.52	0.67	2.24	1-7/8	2000
AM32E-45	2	2-1/2 - 12	1.81	0.49	1.83	0.67	2.67	2-1/2	1500

45° Bulkhead Union Elbow

AM-BE-45

Tube to Tube Union
Connects fractional tubes



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	E	I	L	L1	L2	L3	L4	L5	W Wrench Flat	W1 Hex	Z	SS Working Pressure
AM2BE-45	1/8	5/16 - 24	0.09	0.09	0.19	1.59	0.95	1.28	0.83	0.36	0.64	7/16	9/16	0.31	5000
AM3BE-45	3/16	3/8 - 24	0.13	0.09	0.23	1.67	0.98	1.33	0.88	0.41	0.64	7/16	5/8	0.38	5000
AM4BE-45	1/4	7/16 - 20	0.20	0.09	0.23	1.87	1.12	1.45	0.94	0.44	0.70	7/16	11/16	0.44	5000
AM5BE-45	5/16	1/2 - 20	0.23	0.09	0.25	1.87	1.17	1.45	0.94	0.44	0.75	9/16	3/4	0.50	5000
AM6BE-45	3/8	9/16 - 18	0.28	0.09	0.25	2.03	1.30	1.56	0.98	0.45	0.83	9/16	13/16	0.56	5000
AM8BE-45	1/2	3/4 - 16	0.42	0.13	0.31	2.31	1.48	1.81	1.12	0.55	0.98	3/4	1	0.75	5000
AM10BE-45	5/8	7/8 - 14	0.50	0.13	0.35	2.58	1.61	2.05	1.27	0.61	1.08	7/8	1-1/8	0.88	4500
AM12BE-45	3/4	1-1/6 - 12	0.66	0.13	0.35	2.81	1.83	2.25	1.38	0.67	1.27	1-1/16	1-3/8	1.06	4000
AM14BE-45	7/8	1-3/16 - 12	0.76	0.13	0.35	2.84	1.87	2.31	1.38	0.67	1.34	1-5/16	1-1/2	1.19	4000
AM16BE-45	1	1-5/16 - 12	0.88	0.13	0.42	3.04	2.02	2.38	1.38	0.67	1.36	1-5/16	1-5/8	1.31	4000
AM20BE-45	1-1/4	1-5/8 - 12	1.09	0.13	0.42	3.13	2.17	2.41	1.38	0.67	1.45	1-5/8	1-7/8	1.63	2500
AM24BE-45	1-1/2	1-7/8 - 12	1.34	0.13	0.49	3.14	2.24	2.42	1.38	0.67	1.52	1-7/8	2-1/8	1.88	2000
AM32BE-45	2	2-1/2 - 12	1.81	0.13	0.49	3.42	2.67	2.58	1.38	0.67	1.83	2-1/2	2-3/4	2.50	1500

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

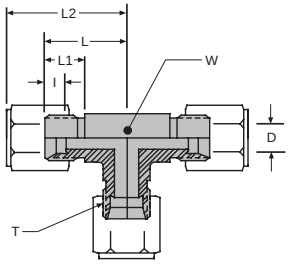
SAE Flareless

Tee

AM-T

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	W Wrench Flat	SS Working Pressure
AM2T	1/8	5/16 - 24	0.09	0.19	0.77	0.36	1.08	7/16	5000
AM3T	3/16	3/8 - 24	0.13	0.23	0.83	0.41	1.17	7/16	5000
AM4T	1/4	7/16 - 20	0.20	0.23	0.89	0.44	1.31	7/16	5000
AM5T	5/16	1/2 - 20	0.23	0.25	0.95	0.44	1.37	9/16	5000
AM6T	3/8	9/16 - 18	0.28	0.25	1.05	0.45	1.52	9/16	5000
AM8T	1/2	3/4 - 16	0.42	0.31	1.25	0.55	1.75	3/4	5000
AM10T	5/8	7/8 - 14	0.50	0.35	1.42	0.61	1.95	7/8	4500
AM12T	3/4	1-1/16 - 12	0.66	0.35	1.58	0.67	2.14	1-1/16	4000
AM14T	7/8	1-3/16 - 12	0.72	0.35	1.66	0.67	2.19	1-5/16	3000
AM16T	1	1-5/6 - 12	0.88	0.42	1.73	0.67	2.39	1-5/16	3000
AM20T	1-1/4	1-5/8 - 12	1.09	0.42	1.89	0.67	2.61	1-5/8	2500
AM24T	1-1/2	1-7/8 - 12	1.34	0.49	2.02	0.67	2.74	1-7/8	2000
AM32T	2	2-1/2 - 12	1.81	0.49	2.45	0.67	3.29	2-1/2	1500



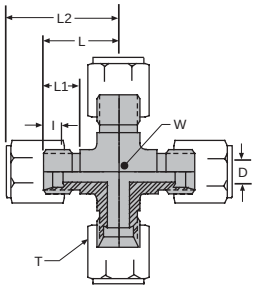
Download CAD Drawing

Cross

AM-X

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	I	L	L1	L2	W Wrench Flat	SS Working Pressure
AM2X	1/8	5/16 - 24	0.09	0.19	0.77	0.36	1.08	7/16	5000
AM3X	3/16	3/8 - 24	0.13	0.23	0.83	0.41	1.17	7/16	5000
AM4X	1/4	7/16 - 20	0.20	0.23	0.89	0.44	1.31	7/16	5000
AM5X	5/16	1/2 - 20	0.23	0.25	0.95	0.44	1.37	9/16	5000
AM6X	3/8	9/16 - 18	0.28	0.25	1.05	0.45	1.52	9/16	5000
AM8X	1/2	3/4 - 16	0.42	0.31	1.25	0.55	1.75	3/4	5000
AM10X	5/8	7/8 - 14	0.50	0.35	1.42	0.61	1.95	7/8	4500
AM12X	3/4	1-1/16 - 12	0.66	0.35	1.58	0.67	2.14	1-1/16	4000
AM14X	7/8	1-3/16 - 12	0.72	0.35	1.66	0.67	2.19	1-5/16	3000
AM16X	1	1-5/16 - 12	0.88	0.42	1.73	0.67	2.39	1-5/16	3000
AM20X	1-1/4	1-5/8 - 12	1.09	0.42	1.89	0.67	2.61	1-5/8	2500
AM24X	1-1/2	1-7/8 - 12	1.34	0.49	2.02	0.67	2.74	1-7/8	2000
AM32X	2	2-1/2 - 12	1.81	0.49	2.45	0.67	3.29	2-1/2	1500



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Pressure Ratings Based on ASME B31.3 Power Piping Code

Bulkhead Run Tee

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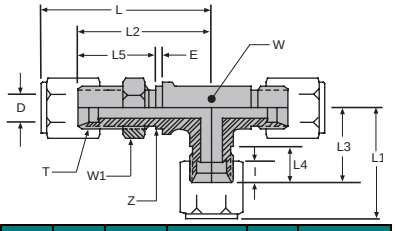

AM-BRT

Tube to Tube Union

Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	E	I	L	L1	L2	L3	L4	L5	W1 Hex	W Wrench Flat	Z	SS Working Pressure
AM2BRT	1/8	5/16 - 24	0.09	0.09	0.19	1.67	1.08	1.36	0.77	0.36	0.83	9/16	7/16	0.31	5000
AM3BRT	3/16	3/8 - 24	0.13	0.09	0.23	1.78	1.17	1.44	0.83	0.41	0.88	5/8	7/16	0.38	5000
AM4BRT	1/4	7/16 - 20	0.20	0.09	0.23	1.94	1.31	1.52	0.89	0.44	0.94	11/16	7/16	0.44	5000
AM5BRT	5/16	1/2 - 20	0.23	0.09	0.25	2.08	1.37	1.66	0.95	0.44	0.94	3/4	9/16	0.50	5000
AM6BRT	3/8	9/16 - 18	0.28	0.09	0.25	2.17	1.52	1.70	1.05	0.45	0.98	13/16	9/16	0.56	5000
AM8BRT	1/2	3/4 - 16	0.42	0.13	0.31	2.47	1.75	1.97	1.25	0.55	1.12	1	3/4	0.75	5000
AM10BRT	5/8	7/8 - 14	0.50	0.13	0.35	2.80	1.95	2.27	1.42	0.61	1.27	1-1/8	7/8	0.88	4500
AM12BRT	3/4	1-1/16 - 12	0.66	0.13	0.35	3.04	2.14	2.48	1.58	0.67	1.38	1-3/8	1-1/16	1.06	4000
AM14BRT	7/8	1-3/16 - 12	0.72	0.13	0.35	3.08	2.19	2.55	1.66	0.67	1.38	1-1/2	1-5/16	1.19	3000
AM16BRT	1	1-5/16 - 12	0.88	0.13	2.42	3.27	2.39	2.61	1.73	0.67	1.38	1-5/8	1-5/16	1.31	3000
AM20BRT	1-1/4	1-5/8 - 12	1.09	0.13	0.42	3.61	2.61	2.89	1.89	0.67	1.38	1-7/8	1-5/8	1.63	2500
AM24BRT	1-1/2	1-7/8 - 12	1.34	0.13	0.49	3.89	2.74	3.17	2.02	0.67	1.38	2-1/8	1-7/8	1.88	2000
AM32BRT	2	2-1/2 - 12	1.81	0.13	0.49	4.61	3.29	3.77	2.45	0.67	1.38	2-3/4	2-1/2	2.50	1500

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix “X” to SSP Part Number.

Bulkhead Branch Tee

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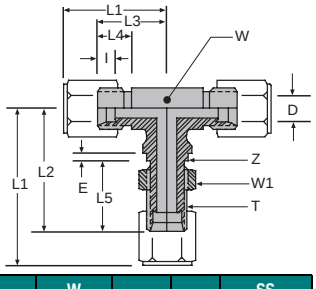

AM-BBT

Tube to Tube Union

Connects fractional tubes

SSP Part Number	Tube O.D.	T Thread	D Through Hole	E	I	L	L1	L2	L3	L4	L5	W Wrench Flat	W1 Hex	Z	SS Working Pressure
AM2BBT	1/8	5/16 - 24	0.09	0.09	0.19	1.67	1.08	1.36	0.80	0.36	0.83	7/16	9/16	0.31	5000
AM3BBT	3/16	3/8 - 24	0.13	0.09	0.23	1.78	1.17	1.44	0.94	0.41	0.88	7/16	5/8	0.38	5000
AM4BBT	1/4	7/16 - 20	0.20	0.09	0.23	1.94	1.31	1.52	0.95	0.44	0.94	7/16	11/16	0.44	5000
AM5BBT	5/16	1/2 - 20	0.23	0.09	0.25	2.08	1.37	1.66	1.05	0.44	0.94	9/16	3/4	0.50	5000
AM6BBT	3/8	9/16 - 18	0.28	0.09	0.25	2.17	1.52	1.70	1.08	0.45	0.98	9/16	13/16	0.56	5000
AM8BBT	1/2	3/4 - 16	0.42	0.13	0.31	2.47	1.75	1.97	1.33	0.55	1.12	3/4	1	0.75	5000
AM10BBT	5/8	7/8 - 14	0.50	0.13	0.35	2.80	1.95	2.27	1.52	0.61	1.27	7/8	1-1/8	0.88	4500
AM12BBT	3/4	1-1/16 - 12	0.66	0.13	0.35	3.04	2.14	2.48	1.64	0.67	1.38	1-1/16	1-3/8	1.06	4000
AM14BBT	7/8	1-3/16 - 12	0.72	0.13	0.35	3.08	2.19	2.55	1.70	0.67	1.38	1-5/16	1-1/2	1.19	3000
AM16BBT	1	1-5/16 - 12	0.88	0.13	0.42	3.27	2.39	2.61	1.73	0.67	1.38	1-5/16	1-5/8	1.31	3000
AM20BBT	1-1/4	1-5/8 - 12	1.09	0.13	0.42	3.61	2.61	2.89	2.02	0.67	1.38	1-5/8	1-7/8	1.63	2500
AM24BBT	1-1/2	1-7/8 - 12	1.34	0.13	0.49	3.89	2.74	3.17	2.20	0.67	1.38	1-7/8	2-1/8	1.88	2000
AM32BBT	2	2-1/2 - 12	1.81	0.13	0.49	4.61	3.29	3.77	2.39	0.67	1.38	2-1/2	2-3/4	2.50	1500

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix “X” to SSP Part Number.

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

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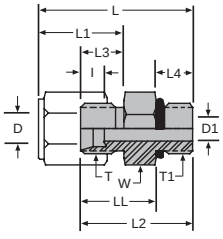


Straight Thread Connector

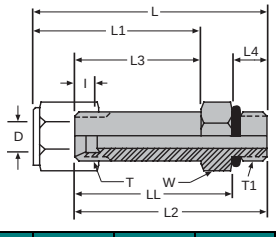
AM-GC

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	L4	LL After Inst.	W Hex	SS Working Pressure
AM2GC	1/8	5/16 - 24	5/16 - 24	0.09	0.09	0.19	1.30	0.69	0.99	0.38	0.30	0.69	7/16	5000
AM3GC	3/16	3/8 - 24	3/8 - 24	0.13	0.13	0.23	1.38	0.76	1.04	0.42	0.30	0.74	1/2	5000
AM4GC	1/4	7/16 - 20	7/16 - 20	0.20	0.20	0.23	1.55	0.87	1.13	0.45	0.36	0.77	9/16	5000
AM4-5GC	1/4	7/16 - 20	1/2 - 20	0.20	0.23	0.23	1.55	0.87	1.13	0.45	0.36	0.77	5/8	5000
AM4-6GC	1/4	7/16 - 20	9/16 - 18	0.20	0.28	0.23	1.61	0.87	1.19	0.45	0.39	0.80	11/16	5000
AM5GC	5/16	1/2 - 20	1/2 - 20	0.23	0.23	0.25	1.55	0.87	1.13	0.45	0.36	0.77	5/8	5000
AM6GC	3/8	9/16 - 18	9/16 - 18	0.28	0.28	0.25	1.68	0.94	1.21	0.47	0.36	0.85	11/16	5000
AM6-4GC	3/8	9/16 - 18	7/16 - 20	0.28	0.20	0.25	1.68	0.94	1.21	0.47	0.36	0.85	5/8	5000
AM6-5GC	3/8	9/16 - 18	1/2 - 20	0.28	0.23	0.25	1.68	0.94	1.21	0.47	0.36	0.85	5/8	5000
AM8GC	1/2	3/4 - 16	3/4 - 16	0.42	0.42	0.31	1.88	1.06	1.38	0.56	0.44	0.94	7/8	5000
AM8-6GC	1/2	3/4 - 16	9/16 - 18	0.42	0.28	0.31	1.78	1.06	1.28	0.56	0.39	0.89	13/16	5000
AM10GC	5/8	7/8 - 14	7/8 - 14	0.50	0.50	0.35	2.10	1.16	1.57	0.63	0.50	1.07	1	5000
AM12GC	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.56	0.35	2.35	1.25	1.79	0.69	0.59	1.20	1-1/4	4500
AM12-8GC	3/4	1-1/16 - 12	3/4 - 16	0.66	0.42	0.35	2.15	1.25	1.59	0.69	0.44	1.15	1-1/8	5000
AM12-10GC	3/4	1-1/16 - 12	7/8 - 14	0.66	0.50	0.35	2.25	1.25	1.69	0.69	0.50	1.16	1-1/8	5000
AM14GC	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	0.35	2.32	1.25	1.79	0.69	0.59	1.20	1-3/8	4000
AM16GC	1	1-5/16 - 12	1-5/16 - 12	0.88	0.88	0.42	2.48	1.35	1.82	0.69	0.59	1.23	1-1/2	4000
AM16-12GC	1	1-5/16 - 12	1-1/16 - 12	0.88	0.56	0.42	2.43	1.35	1.77	0.69	0.59	1.18	1-3/8	4000
AM20GC	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	1.09	0.42	2.62	1.41	1.90	0.69	0.59	1.31	1-7/8	3000
AM20-16GC	1-1/4	1-5/8 - 12	1-5/16 - 12	1.09	0.88	0.42	2.57	1.41	1.85	0.69	0.59	1.26	1-11/16	3000
AM24GC	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	1.34	0.49	2.69	1.41	1.97	0.69	0.59	1.38	2-1/8	2000
AM32GC	2	2-1/2 - 12	2-1/2 - 12	1.81	1.81	0.49	2.97	1.53	2.13	0.69	0.59	1.54	2-3/4	2000

Download CAD Drawing



Long Straight Thread Connector

AM-LGC

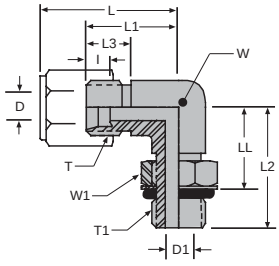
Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	L4	LL After Inst.	W Hex	SS Working Pressure
AM4LGC	1/4	7/16 - 20	7/16 - 20	0.20	0.23	2.44	1.75	2.02	1.33	0.36	1.61	9/16	5000
AM6LGC	3/8	9/16 - 18	9/16 - 18	0.28	0.25	2.70	1.95	2.23	1.48	0.39	1.79	11/16	5000
AM8LGC	1/2	3/4 - 16	3/4 - 16	0.42	0.31	3.12	2.30	2.62	1.80	0.44	2.14	7/8	5000
AM10LGC	5/8	7/8 - 14	7/8 - 14	0.50	0.35	3.51	2.56	2.98	2.03	0.50	2.43	1	4500
AM12LGC	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	4.09	2.98	3.53	2.42	0.59	2.89	1-1/4	4000
AM16LGC	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	4.57	3.43	3.91	2.77	0.59	3.27	1-1/2	3000

Pressure Ratings Based on ASME B31.3 Power Piping Code

Download CAD Drawing



Straight Thread Elbow

AM-GE

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
AM2GE	1/8	5/16 - 24	5/16 - 24	0.09	0.09	0.19	1.08	0.77	0.94	0.36	0.63	7/16	7/16	5000
AM3GE	3/16	3/8 - 24	3/8 - 24	0.13	0.13	0.23	1.17	0.83	0.94	0.41	0.61	7/16	1/2	5000
AM4GE	1/4	7/16 - 20	7/16 - 20	0.20	0.20	0.23	1.31	0.89	1.03	0.44	0.64	7/16	9/16	5000
AM4-6GE	1/4	7/16 - 20	9/16 - 18	0.20	0.28	0.23	1.44	1.02	1.25	0.44	0.82	9/16	11/16	5000
AM5GE	5/16	1/2 - 20	1/2 - 20	0.23	0.23	0.25	1.37	0.95	1.13	0.44	0.70	9/16	5/8	5000
AM5-6GE	5/16	1/2 - 20	9/16 - 18	0.23	0.28	0.25	1.45	1.03	1.25	0.44	0.79	9/16	11/16	5000
AM6GE	3/8	9/16 - 18	9/16 - 18	0.28	0.28	0.25	1.52	1.05	1.25	0.45	0.82	9/16	11/16	5000
AM6-4GE	3/8	9/16 - 18	7/16 - 20	0.28	0.20	0.25	1.52	1.05	1.19	0.45	0.80	9/16	9/16	5000
AM6-5GE	3/8	9/16 - 18	1/2 - 20	0.28	0.23	0.25	1.52	1.05	1.19	0.45	0.72	9/16	5/8	5000
AM6-8GE	3/8	9/16 - 18	3/4 - 16	0.28	0.42	0.25	1.61	1.14	1.45	0.45	0.96	3/4	7/8	5000
AM8GE	1/2	3/4 - 16	3/4 - 16	0.42	0.42	0.31	1.75	1.25	1.45	0.55	0.96	3/4	7/8	5000
AM8-6GE	1/2	3/4 - 16	9/16 - 18	0.42	0.28	0.31	1.75	1.25	1.36	0.55	0.89	3/4	11/16	5000
AM10GE	5/8	7/8 - 14	7/8 - 14	0.50	0.50	0.35	1.95	1.42	1.70	0.61	1.14	7/8	1	4500
AM12GE	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.66	0.35	2.14	1.58	1.94	0.67	1.29	1-1/16	1-1/4	4000
AM12-10GE	3/4	1-1/16 - 12	7/8 - 14	0.66	0.50	0.35	2.14	1.58	1.78	0.67	1.22	1-1/16	1	4000
AM14GE	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	0.35	2.19	1.66	2.00	0.67	1.35	1-5/16	1-3/8	3000
AM16GE	1	1-5/16 - 12	1-5/16 - 12	0.88	0.88	0.42	2.39	1.73	2.05	0.67	1.40	1-5/16	1-1/2	3000
AM16-12GE	1	1-5/16 - 12	1-1/16 - 12	0.88	0.72	0.42	2.39	1.73	2.05	0.67	1.40	1-5/16	1-1/4	3000
AM20GE	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	1.09	0.42	2.61	1.89	2.25	0.67	1.60	1-5/8	1-7/8	2500
AM24GE	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	1.34	0.49	2.74	2.02	2.39	0.67	1.74	1-7/8	2-1/8	2000
AM32GE	2	2-1/2 - 12	2-1/2 - 12	1.81	1.81	0.49	3.29	2.45	2.89	0.67	2.24	2-1/2	2-3/4	1500

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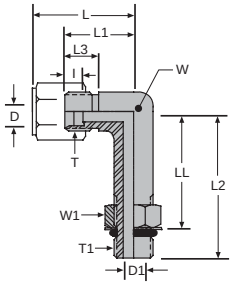


Long Straight Thread Elbow

AM-LGE

Tube to O-Ring Boss

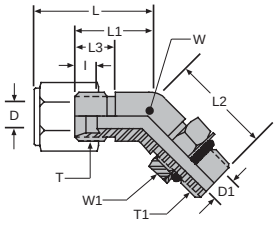
Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
AM4LGE	1/4	7/16 - 20	7/16 - 20	0.20	0.20	0.23	1.31	0.89	1.73	0.44	1.34	7/16	9/16	5000
AM6LGE	3/8	9/16 - 18	9/16 - 18	0.28	0.28	0.25	1.52	1.05	2.08	0.45	1.65	9/16	9/16	5000
AM8LGE	1/2	3/4 - 16	3/4 - 16	0.42	0.42	0.31	1.75	1.25	2.50	0.55	2.01	3/4	7/8	5000
AM10LGE	5/8	7/8 - 14	7/8 - 14	0.50	0.50	0.35	1.95	1.42	2.89	0.61	2.33	7/8	1	4500
AM12LGE	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.66	0.35	2.14	1.58	3.34	0.67	2.69	1-1/16	1-1/4	4000
AM16LGE	1	1-5/16 - 12	1-5/16 - 12	0.88	0.88	0.42	2.39	1.73	3.72	0.67	3.07	1-5/16	1-1/2	3000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

Download CAD Drawing



45° Straight Thread Elbow

AM-GE-45

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	W1 Hex	W Wrench Flat	SS Working Pressure
AM2GE-45	1/8	5/16 - 24	5/16 - 24	0.09	0.09	0.19	0.95	0.64	0.88	0.36	7/16	7/16	5000
AM3GE-45	3/16	3/8 - 24	3/8 - 24	0.13	0.13	0.23	0.98	0.64	0.88	0.41	1/2	7/16	5000
AM4GE-45	1/4	7/16 - 20	7/16 - 20	0.20	0.20	0.23	1.12	0.70	1.05	0.44	9/16	7/16	5000
AM4-6GE-45	1/4	7/16 - 20	9/16 - 18	0.20	0.28	0.23	1.12	0.70	1.14	0.44	11/16	9/16	5000
AM5GE-45	5/16	1/2 - 20	1/2 - 20	0.23	0.23	0.25	1.17	0.75	1.05	0.44	5/8	9/16	5000
AM6GE-45	3/8	9/16 - 18	9/16 - 18	0.28	0.28	0.25	1.30	0.83	1.14	0.45	11/16	9/16	5000
AM6-8GE-45	3/8	9/16 - 18	3/4 - 16	0.28	0.42	0.25	1.30	0.83	1.45	0.45	7/8	3/4	5000
AM8GE-45	1/2	3/4 - 16	3/4 - 16	0.42	0.42	0.31	1.48	0.98	1.30	0.55	7/8	3/4	5000
AM10GE-45	5/8	7/8 - 14	7/8 - 14	0.50	0.50	0.35	1.61	1.08	1.52	0.61	1	7/8	4500
AM12GE-45	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.66	0.35	1.83	1.27	1.73	0.67	1-1/4	1-1/16	4000
AM14GE-45	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.72	0.35	1.87	1.34	1.86	0.67	1-3/8	1-5/16	4000
AM16GE-45	1	1-5/16 - 12	1-5/16 - 12	0.88	0.88	0.42	2.02	1.36	1.86	0.67	1-1/2	1-5/16	3000
AM16-12GE-45	1	1-5/16 - 12	1-1/16 - 12	0.88	0.66	0.42	2.02	1.36	1.86	0.67	1-1/4	1-5/16	3000
AM20GE-45	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	1.09	0.42	2.17	1.45	1.91	0.67	1-7/8	1-5/8	2500
AM24GE-45	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	1.34	0.49	2.24	1.52	1.91	1.67	2-1/8	1-7/8	2000

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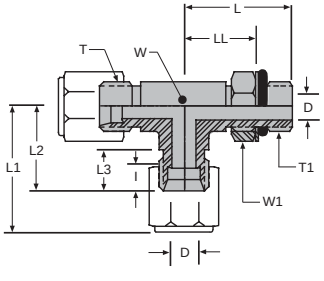

Straight Thread Run Tee

AM-GRT

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
AM2GRT	1/8	5/16 - 24	5/16 - 24	0.09	0.19	0.94	1.08	0.77	0.36	0.63	7/16	7/16	5000
AM3GRT	3/16	3/8 - 24	3/8 - 24	0.13	0.23	0.94	1.17	0.83	0.41	0.61	7/16	1/2	5000
AM4GRT	1/4	7/16 - 20	7/16 - 20	0.20	0.23	1.03	1.31	0.89	0.44	0.64	7/16	9/16	5000
AM5GRT	5/16	1/2 - 20	1/2 - 20	0.23	0.25	1.13	1.37	0.95	0.44	0.70	9/16	5/8	5000
AM6GRT	3/8	9/16 - 18	9/16 - 18	0.28	0.25	1.25	1.52	1.05	0.45	0.82	9/16	11/16	5000
AM8GRT	1/2	3/4 - 16	3/4 - 16	0.42	0.31	1.45	1.75	1.25	0.55	0.96	3/4	7/8	5000
AM10GRT	5/8	7/8 - 14	7/8 - 14	0.50	0.35	1.70	1.95	1.42	0.61	1.14	7/8	1	4500
AM12GRT	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	1.94	2.14	1.58	0.67	1.29	1-1/16	1-1/4	4000
AM14GRT	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.35	2.00	2.19	1.66	0.67	1.35	1-5/16	1-3/8	3000
AM16GRT	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	2.05	2.39	1.73	0.67	1.40	1-5/16	1-1/2	3000
AM20GRT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	0.42	2.25	2.61	1.89	0.67	1.60	1-5/8	1-7/8	2500
AM24GRT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	0.49	2.39	2.74	2.02	0.67	1.74	1-7/8	2-1/8	2000
AM32GRT	2	2-1/2 - 12	2-1/2 - 12	1.81	0.49	2.89	3.29	2.45	0.67	2.24	2-1/2	2-3/4	1500

Pressure Ratings Based on ASME B31.3 Power Piping Code

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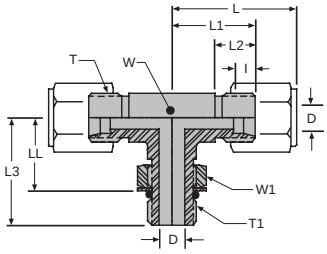

Straight Thread Branch Tee

AM-GBT

Tube to O-Ring Boss

Connects fractional tube to female SAE/MS straight thread

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
AM2GBT	1/8	5/16 - 24	5/16 - 24	0.09	0.19	1.08	0.77	0.36	0.94	0.63	7/16	7/16	5000
AM3GBT	3/16	3/8 - 24	3/8 - 24	0.13	0.23	1.17	0.83	0.41	0.94	0.61	7/16	1/2	5000
AM4GBT	1/4	7/16 - 20	7/16 - 20	0.20	0.23	1.31	0.89	0.44	1.03	0.64	7/16	9/16	5000
AM5GBT	5/16	1/2 - 20	1/2 - 20	0.23	0.25	1.37	0.95	0.44	1.13	0.70	9/16	5/8	5000
AM6GBT	3/8	9/16 - 18	9/16 - 18	0.28	0.25	1.52	1.05	0.45	1.25	0.82	9/16	11/16	5000
AM8GBT	1/2	3/4 - 16	3/4 - 16	0.42	0.31	1.75	1.25	0.55	1.45	0.96	3/4	7/8	5000
AM10GBT	5/8	7/8 - 14	7/8 - 14	0.50	0.35	1.95	1.42	0.61	1.70	1.14	7/8	1	5000
AM12GBT	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	2.14	1.58	0.67	1.94	1.29	1-1/16	1-1/4	4500
AM14GBT	7/8	1-3/16 - 12	1-3/16 - 12	0.72	0.35	2.19	1.66	0.67	2.00	1.35	1-5/16	1-3/8	4000
AM16GBT	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	2.39	1.73	0.67	2.05	1.40	1-5/16	1-1/2	4000
AM20GBT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	0.42	2.61	1.89	0.67	2.25	1.60	1-5/8	1-7/8	3000
AM24GBT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	0.49	2.74	2.02	0.67	2.39	1.74	1-7/8	2-1/8	3000
AM32GBT	2	2-1/2 - 12	2-1/2 - 12	1.81	0.49	3.29	2.45	0.67	2.89	2.24	2-1/2	2-3/4	2000

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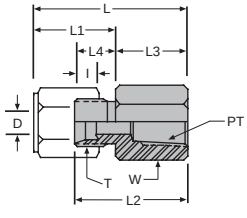

Female Connector

AM-FC

Tube to Female Pipe

Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	I	L	L1	L2	L3	L4	W Hex	SS Working Pressure
AM2FC	1/8	1/8 - 27	5/16 - 24	0.09	0.19	1.36	0.69	1.06	0.67	0.38	9/16	5000
AM3FC	3/16	1/8 - 27	3/8 - 24	0.13	0.23	1.41	0.76	1.07	0.65	0.42	9/16	5000
AM4FC	1/4	1/8 - 27	7/16 - 20	0.20	0.23	1.51	0.87	1.06	0.64	0.42	9/16	5000
AM4-4FC	1/4	1/4 - 18	7/16 - 20	0.20	0.23	1.70	0.87	1.25	0.83	0.42	3/4	5000
AM5FC	5/16	1/8 - 27	1/2 - 20	0.23	0.25	1.49	0.87	1.07	0.62	0.45	9/16	5000
AM5-4FC	5/16	1/4 - 18	1/2 - 20	0.23	0.25	1.66	0.87	1.24	0.79	0.45	3/4	5000
AM6FC	3/8	1/4 - 18	9/16 - 18	0.28	0.25	1.78	0.94	1.31	0.84	0.47	3/4	5000
AM6-6FC	3/8	3/8 - 18	9/16 - 18	0.28	0.25	1.79	0.94	1.32	0.85	0.47	7/8	5000
AM8FC	1/2	3/8 - 18	3/4 - 16	0.42	0.31	1.96	1.06	1.46	0.90	0.56	7/8	5000
AM8-8FC	1/2	1/2 - 14	3/4 - 16	0.42	0.31	2.15	1.06	1.65	1.09	0.56	1-1/8	5000
AM10FC	5/8	1/2 - 14	7/8 - 14	0.50	0.35	2.29	1.16	1.76	1.13	0.63	1-1/8	4500
AM12FC	3/4	3/4 - 14	1-1/16 - 12	0.66	0.35	2.30	1.25	1.74	1.05	0.69	1-3/8	4000
AM12-8FC	3/4	1/2 - 14	1-1/16 - 12	0.66	0.35	2.45	1.25	1.89	1.20	0.69	1-1/8	4000
AM14FC	7/8	3/4 - 14	1-3/16 - 12	0.72	0.35	2.39	1.22	1.86	1.17	0.69	1-3/8	4000
AM16FC	1	1 - 11-1/2	1-5/16 - 12	0.88	0.42	2.81	1.35	2.15	1.46	0.69	1-5/8	3000
AM20FC	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	0.42	2.94	1.41	2.22	1.53	0.69	2	3000
AM24FC	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	0.49	2.95	1.41	2.23	1.54	0.69	2-3/8	2500
AM32FC	2	2 - 11-1/2	2-1/2 - 12	1.81	0.49	3.17	1.53	2.33	1.64	0.69	2-7/8	2000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

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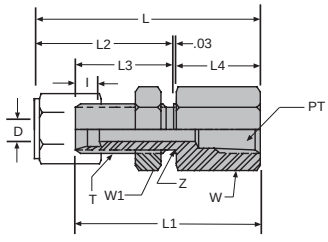

Female Bulkhead Connector

AM-BFC

Tube to Female Pipe
Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	I	L	L1	L2	L3	L4	W Hex	W1 Hex	Z	SS Working Pressure
AM4BFC	1/4	1/8 - 27	7/16 - 20	0.20	0.23	2.18	1.79	1.54	1.12	0.61	11/16	11/16	0.44	5000
AM4-4BFC	1/4	1/4 - 18	7/16 - 20	0.20	0.23	2.37	1.79	1.54	1.12	0.80	11/16	3/4	0.44	5000
AM5BFC	5/16	1/8 - 27	1/2 - 20	0.23	0.25	2.16	1.82	1.54	1.12	0.59	3/4	3/4	0.50	5000
AM6BFC	3/8	1/4 - 18	9/16 - 18	0.28	0.25	2.48	2.07	1.64	1.17	0.81	13/16	13/16	0.56	5000
AM6-6BFC	3/8	3/8 - 18	9/16 - 18	0.28	0.25	2.49	2.07	1.64	1.17	0.82	13/16	7/8	0.56	5000
AM8BFC	1/2	3/8 - 18	3/4 - 16	0.42	0.31	2.71	2.22	1.81	1.31	0.87	1	1	0.75	5000
AM8-8BFC	1/2	1/2 - 14	3/4 - 16	0.42	0.31	2.90	2.22	1.81	1.31	1.06	1	1-1/8	0.75	5000
AM10BFC	5/8	1/2 - 14	7/8 - 14	0.50	0.35	3.11	2.61	1.98	1.45	1.10	1-1/8	1-1/8	0.88	4500
AM12BFC	3/4	3/4 - 14	1-1/16 - 12	0.66	0.35	3.17	2.78	2.12	1.56	1.02	1-3/8	1-3/8	1.06	4000
AM14BFC	7/8	3/4 - 14	1-3/16 - 12	0.72	0.35	3.26	2.78	2.09	1.56	1.14	1-1/2	1-1/2	1.19	3000
AM16BFC	1	1 - 11-1/2	1-5/16 - 12	0.88	0.42	3.68	2.97	2.22	1.56	1.43	1-5/8	1-5/8	1.31	3000
AM20BFC	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	0.42	3.81	3.08	2.38	1.56	1.50	1-7/8	2	1.63	2500
AM24BFC	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	0.49	3.82	3.18	2.38	1.56	1.51	2-1/8	2-3/8	1.88	2500
AM32BFC	2	2 - 11-1/2	2-1/2 - 12	1.81	0.49	4.25	3.57	2.61	1.77	1.61	2-3/4	2-7/8	2.50	2000

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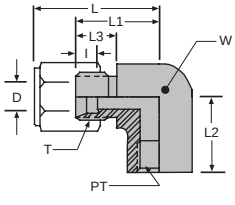

Female Elbow

AM-FE

Tube to Female Pipe
Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	I	L	L1	L2	L3	W Wrench Flat	SS Working Pressure
AM2FE	1/8	1/8 - 27	1/8 - 24	0.09	0.19	1.14	0.83	0.66	0.36	9/16	5000
AM3FE	3/16	1/8 - 27	3/8 - 24	0.13	0.23	1.17	0.83	0.66	0.41	9/16	5000
AM4FE	1/4	1/8 - 27	7/16 - 20	0.20	0.23	1.31	0.89	0.66	0.44	9/16	5000
AM4-4FE	1/4	1/4 - 18	7/16 - 20	0.20	0.23	1.45	1.03	0.88	0.44	3/4	5000
AM5FE	5/16	1/8 - 27	1/2 - 20	0.23	0.25	1.37	0.95	0.66	0.44	9/16	5000
AM5-4FE	5/16	1/4 - 18	1/2 - 20	0.23	0.25	1.46	1.04	0.88	0.44	3/4	5000
AM6FE	3/8	1/4 - 18	9/16 - 18	0.28	0.25	1.52	1.05	0.88	0.45	3/4	5000
AM6-2FE	3/8	1/8 - 27	9/16 - 18	0.28	0.25	1.52	1.05	0.67	0.45	9/16	5000
AM6-6FE	3/8	3/8 - 18	9/16 - 18	0.28	0.25	1.60	1.13	1.02	0.45	7/8	4500
AM8FE	1/2	3/8 - 18	3/4 - 16	0.42	0.31	1.73	1.23	1.02	0.55	7/8	3000
AM8-4FE	1/2	1/4 - 18	3/4 - 16	0.42	0.31	1.73	1.23	1.01	0.55	3/4	5000
AM8-8FE	1/2	1/2 - 14	3/4 - 16	0.42	0.31	1.84	1.34	1.23	0.55	1-1/16	3000
AM10FE	5/8	1/2 - 14	7/8 - 14	0.50	0.35	1.95	1.42	1.23	0.61	1-1/16	3000
AM12FE	3/4	3/4 - 14	1-1/16 - 12	0.66	0.35	2.14	1.58	1.36	0.67	1-5/16	3000
AM12-8FE	3/4	1/2 - 14	1-1/16 - 12	0.66	0.35	2.14	1.58	1.35	0.67	1-1/16	3000
AM14FE	7/8	3/4 - 14	1-3/16 - 12	0.72	0.35	2.15	1.62	1.42	0.67	1-5/16	3000
AM16FE	1	1 - 11-1/2	1-5/16 - 12	0.88	0.42	2.39	1.73	1.63	0.67	1-5/8	1750
AM20FE	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	0.42	2.80	2.08	1.70	0.67	1-7/8	1500
AM24FE	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	0.49	3.30	2.58	2.08	0.67	2-1/2	1000
AM32FE	2	2 - 11-1/2	2-1/2 - 12	1.81	0.49	3.48	2.64	2.39	0.67	3	1000

Pressure Ratings Based on ASME B31.3 Power Piping Code

45° Female Elbow

AM-FE-45

Tube to Female Pipe
Connects fractional tube to male NPT thread

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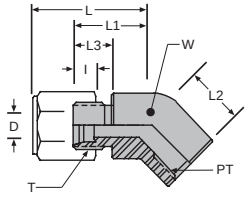

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	I	L	L1	L2	L3	W Wrench Flat	SS Working Pressure
AM2FE-45	1/8	1/8 - 27	5/16 - 24	0.09	0.19	0.95	0.64	0.50	0.36	9/16	5000
AM3FE-45	3/16	1/8 - 27	3/8 - 24	0.13	0.23	0.98	0.64	0.50	0.41	9/16	5000
AM4FE-45	1/4	1/8 - 27	7/16 - 20	0.20	0.23	1.12	0.70	0.50	0.44	9/16	5000
AM5FE-45	5/16	1/8 - 27	1/2 - 20	0.23	0.25	1.17	0.75	0.50	0.44	9/16	5000
AM6FE-45	3/8	1/4 - 18	9/16 - 18	0.28	0.25	1.30	0.83	0.69	0.45	3/4	4500
AM8FE-45	1/2	3/8 - 18	3/4 - 16	0.42	0.31	1.48	0.98	0.75	0.55	7/8	3000
AM10FE-45	5/8	1/2 - 14	7/8 - 14	0.50	0.35	1.61	1.08	0.94	0.61	1-1/16	3000
AM12FE-45	3/4	3/4 - 14	1-1/16 - 12	0.66	0.35	1.83	1.27	1.00	0.67	1-5/16	3000
AM14FE-45	7/8	3/4 - 14	1-3/16 - 12	0.72	0.35	1.87	1.34	1.03	0.67	1-5/16	3000
AM16FE-45	1	1 - 11-1/2	1-5/16 - 12	0.88	0.42	2.02	1.36	1.19	0.67	1-5/8	1750
AM20FE-45	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	0.42	2.17	1.45	1.44	0.67	1-7/8	1500
AM24FE-45	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	0.49	2.24	1.52	1.46	0.67	2-1/2	1000
AM32FE-45	2	2 - 11-1/2	2-1/2 - 12	1.81	0.49	2.67	1.83	1.59	0.67	3	1000

Female Run Tee

AM-TFT

Tube to Female Pipe
Connects fractional tube to male NPT thread

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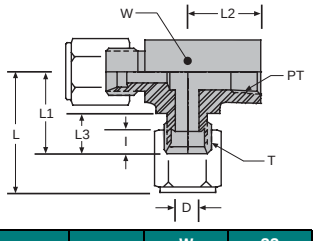
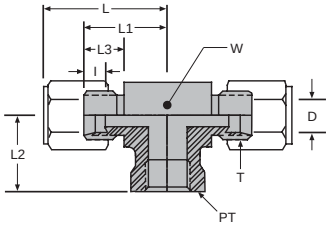


SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	I	L	L1	L2	L3	W Wrench Flat	SS Working Pressure
AM2TFT	1/8	1/8 - 27	5/16 - 24	0.09	0.19	1.14	0.83	0.66	0.36	9/16	5000
AM3TFT	3/16	1/8 - 27	3/8 - 24	0.13	0.23	1.17	0.83	0.66	0.41	9/16	5000
AM4TFT	1/4	1/8 - 27	7/16 - 20	0.20	0.23	1.31	0.89	0.66	0.44	9/16	5000
AM4-4-4TFT	1/4	1/4 - 18	7/16 - 20	0.20	0.23	1.45	1.03	0.88	0.44	3/4	5000
AM5TFT	5/16	1/8 - 27	1/2 - 20	0.23	0.25	1.37	0.95	0.66	0.44	9/16	5000
AM6TFT	3/8	1/4 - 18	9/16 - 18	0.28	0.25	1.52	1.05	0.88	0.45	3/4	5000
AM6-6-6TFT	3/8	3/8 - 18	9/16 - 18	0.28	0.25	1.60	1.13	1.02	0.45	7/8	4500
AM8TFT	1/2	3/8 - 18	3/4 - 16	0.42	0.31	1.73	1.23	1.02	0.55	7/8	3000
AM8-8-8TFT	1/2	1/2 - 14	3/4 - 16	0.42	0.31	1.84	1.34	1.23	0.55	1-1/16	3000
AM10TFT	5/8	1/2 - 14	7/8 - 14	0.50	0.35	1.95	1.42	1.23	0.61	1-1/16	3000
AM12TFT	3/4	3/4 - 14	1-1/16 - 12	0.66	0.35	2.14	1.58	1.36	0.67	1-5/16	3000
AM12-8-12TFT	3/4	1/2 - 14	1-1/16 - 12	0.66	0.35	2.14	1.58	1.35	0.67	1-1/16	3000
AM14TFT	7/8	3/4 - 14	1-3/16 - 12	0.72	0.35	2.15	1.62	1.42	0.67	1-5/16	3000
AM16TFT	1	1 - 11-1/2	1-5/16 - 12	0.88	0.42	2.39	1.73	1.63	0.67	1-5/8	1750
AM20TFT	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	0.42	2.80	2.08	1.70	0.67	1-7/8	1500
AM24TFT	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	0.49	3.30	2.58	2.08	0.67	2-1/2	1000
AM32TFT	2	2 - 11-1/2	2-1/2 - 12	1.81	0.49	3.48	2.64	2.39	0.67	3	1000

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

Download CAD Drawing



Female Branch Tee

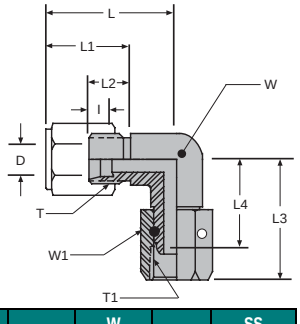
AM-TTF

Tube to Female Pipe

Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	T Thread	D Through Hole	I	L	L1	L2	L3	W Wrench Flat	SS Working Pressure
AM2TTF	1/8	1/8 - 27	5/16 - 24	0.09	0.19	1.14	0.83	0.66	0.36	9/16	5000
AM3TTF	3/16	1/8 - 27	3/8 - 24	0.13	0.23	1.17	0.83	0.66	0.41	9/16	5000
AM4TTF	1/4	1/8 - 27	7/16 - 20	0.20	0.23	1.31	0.89	0.66	0.44	9/16	5000
AM4-4-4TTF	1/4	1/4 - 18	7/16 - 20	0.20	0.23	1.45	1.03	0.88	0.44	3/4	5000
AM5TTF	5/16	1/8 - 27	1/2 - 20	0.23	0.25	1.37	0.95	0.66	0.44	9/16	5000
AM5-5-4TTF	5/16	1/4 - 18	1/2 - 20	0.23	0.25	1.46	1.04	0.88	0.44	3/4	5000
AM6TTF	3/8	1/4 - 18	9/16 - 18	0.28	0.25	1.52	1.05	0.88	0.45	3/4	5000
AM6-6-2TTF	3/8	1/8 - 27	9/16 - 18	0.28	0.25	1.52	1.05	0.67	0.45	9/16	5000
AM6-6-6TTF	3/8	3/8 - 18	9/16 - 18	0.28	0.25	1.60	1.13	1.02	0.45	7/8	4500
AM8TTF	1/2	3/8 - 18	3/4 - 16	0.42	0.31	1.73	1.23	1.02	0.55	7/8	3000
AM8-8-4TTF	1/2	1/4 - 18	3/4 - 16	0.42	0.31	1.73	1.23	1.01	0.55	3/4	5000
AM8-8-8TTF	1/2	1/2 - 14	3/4 - 16	0.42	0.31	1.84	1.34	1.23	0.55	1-1/16	3000
AM10TTF	5/8	1/2 - 14	7/8 - 14	0.50	0.35	1.95	1.42	1.23	0.61	1-1/16	3000
AM12TTF	3/4	3/4 - 14	1-1/16 - 12	0.66	0.35	2.14	1.58	1.36	0.67	1-5/16	3000
AM12-2-8TTF	3/4	1/2 - 14	1-1/16 - 12	0.66	0.35	2.14	1.58	1.35	0.67	1-1/16	3000
AM14TTF	7/8	3/4 - 14	1-3/16 - 12	0.72	0.35	2.15	1.62	1.42	0.67	1-5/16	3000
AM16TTF	1	1 - 11-1/2	1-5/16 - 12	0.88	0.42	2.39	1.73	1.63	0.67	1-5/8	1750
AM20TTF	1-1/4	1-1/4 - 11-1/2	1-5/8 - 12	1.09	0.42	2.80	2.08	1.70	0.67	1-7/8	1500
AM24TTF	1-1/2	1-1/2 - 11-1/2	1-7/8 - 12	1.34	0.49	3.30	2.58	2.08	0.67	2-1/2	1000
AM32TTF	2	2 - 11-1/2	2-1/2 - 12	1.81	0.49	3.48	2.64	2.39	0.67	3	1000

Download CAD Drawing



Swivel Nut Elbow

AM-SE

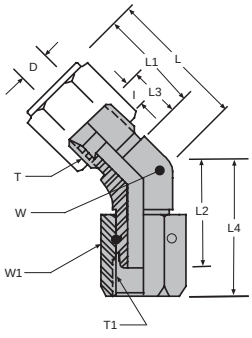
Tube to Swivel

Connects fractional tube to male SAE Flareless fitting

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	L4	W Wrench Flat	W1 Hex	SS Working Pressure
AM2SE	1/8	5/16 - 24	5/16 - 24	0.09	0.19	1.08	0.77	0.36	0.98	0.81	7/16	7/16	5000
AM3SE	3/16	3/8 - 24	3/8 - 24	0.13	0.23	1.17	0.83	0.41	1.02	0.84	7/16	1/2	5000
AM4SE	1/4	7/16 - 20	7/16 - 20	0.20	0.23	1.31	0.89	0.44	1.05	0.83	7/16	9/16	5000
AM5SE	5/16	1/2 - 20	1/2 - 20	0.23	0.25	1.37	0.95	0.44	1.14	0.92	9/16	5/8	5000
AM6SE	3/8	9/16 - 18	9/16 - 18	0.28	0.25	1.52	1.05	0.45	1.28	1.01	9/16	11/16	5000
AM8SE	1/2	3/4 - 16	3/4 - 16	0.42	0.31	1.75	1.25	0.55	1.47	1.22	3/4	7/8	5000
AM10SE	5/8	7/8 - 14	7/8 - 14	0.50	0.35	1.95	1.42	0.61	1.61	1.31	7/8	1	4500
AM12SE	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	2.14	1.58	0.67	1.77	1.42	1-1/16	1-1/4	4000
AM16SE	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	2.39	1.73	0.67	1.86	1.61	1-5/16	1-1/2	3000
AM20SE	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	0.42	2.61	1.89	0.67	2.08	1.81	1-5/8	2	2500
AM24SE	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	0.49	2.74	2.02	0.67	2.20	1.91	1-7/8	2-1/4	2000
AM32SE	2	2-1/2 - 12	2-1/2 - 12	1.81	0.49	3.29	2.45	0.67	2.56	2.24	2-1/2	2-7/8	1500

Swivel nut may be secured by either pinning or crimping to fitting body

Pressure Ratings Based on ASME B31.3 Power Piping Code



Download CAD Drawing

45° Swivel Nut Elbow

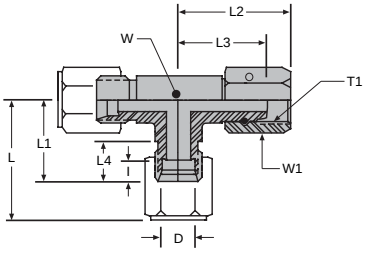
AM-SE-45

Tube to Swivel

Connects fractional tube to male SAE Flareless fitting

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	L4	LL After Inst.	W Wrench Flat	W1 Hex	SS Working Pressure
AM2SE-45	1/8	5/16 - 24	5/16 - 24	0.09	0.19	0.64	0.77	0.58	0.36	0.95	0.63	7/16	7/16	5000
AM3SE-45	3/16	3/8 - 24	3/8 - 24	0.13	0.23	0.64	0.83	0.63	0.41	0.95	0.61	7/16	1/2	5000
AM4SE-45	1/4	7/16 - 20	7/16 - 20	0.20	0.23	0.70	0.89	0.63	0.44	0.98	0.64	7/16	9/16	5000
AM5SE-45	5/16	1/2 - 20	1/2 - 20	0.23	0.25	0.75	0.95	0.70	0.44	1.05	0.70	9/16	5/8	5000
AM6SE-45	3/8	9/16 - 18	9/16 - 18	0.28	0.25	0.83	1.05	0.81	0.45	1.20	0.82	9/16	11/16	5000
AM8SE-45	1/2	3/4 - 16	3/4 - 16	0.42	0.31	0.98	1.25	0.86	0.55	1.33	0.96	3/4	7/8	5000
AM10SE-45	5/8	7/8 - 14	7/8 - 14	0.50	0.35	1.08	1.42	1.05	0.61	1.48	1.14	7/8	1	5000
AM12SE-45	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	1.27	1.58	1.12	0.67	1.61	1.29	1-1/16	1-1/4	5000
AM16SE-45	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	1.36	1.73	1.25	0.67	1.70	1.40	1-5/16	1-1/2	5000
AM20SE-45	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	0.42	1.45	1.89	1.37	0.67	1.80	1.60	1-5/8	1-7/8	2500
AM24SE-45	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	0.49	1.52	2.02	1.50	0.67	1.92	1.74	1-7/8	2-1/8	2000
AM32SE-45	2	2-1/2 - 12	2-1/2 - 12	1.81	0.49	1.83	2.45	1.64	0.67	2.05	2.24	2-1/2	2-3/4	1500

Swivel nut may be secured by either pinning or crimping to fitting body



Download CAD Drawing

Swivel Nut Run Tee

AM-SRT

Tube to Swivel

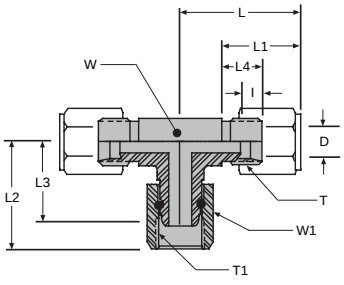
Connects fractional tube to male SAE Flareless fitting

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	L4	W Wrench Flat	W1 Hex	SS Working Pressure
AM2SRT	1/8	5/16 - 24	5/16 - 24	0.09	0.19	1.08	0.77	0.98	0.81	0.36	7/16	7/16	5000
AM3SRT	3/16	3/8 - 24	3/8 - 24	0.13	0.23	1.17	0.83	1.02	0.84	0.41	7/16	1/2	5000
AM4SRT	1/4	7/16 - 20	7/16 - 20	0.20	0.23	1.31	0.89	1.05	0.83	0.44	7/16	9/16	5000
AM5SRT	5/16	1/2 - 20	1/2 - 20	0.23	0.25	1.37	0.95	1.14	0.92	0.44	9/16	5/8	5000
AM6SRT	3/8	9/16 - 18	9/16 - 18	0.28	0.25	1.52	1.05	1.28	1.01	0.45	9/16	11/16	5000
AM8SRT	1/2	3/4 - 16	3/4 - 16	0.42	0.31	1.75	1.25	1.47	1.22	0.55	3/4	7/8	5000
AM10SRT	5/8	7/8 - 14	7/8 - 14	0.50	0.35	1.95	1.42	1.61	1.31	0.61	7/8	1	4500
AM12SRT	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	2.14	1.58	1.77	1.42	0.67	1-1/16	1-1/4	4000
AM16SRT	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	2.39	1.73	1.86	1.61	0.67	1-5/16	1-1/2	3000
AM20SRT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	0.42	2.61	1.89	2.08	1.81	0.67	1-5/8	2	2500
AM24SRT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	0.49	2.74	2.02	2.20	1.91	0.67	1-7/8	2-1/4	2000
AM32SRT	2	2-1/2 - 12	2 - 12	1.81	0.49	3.29	2.45	2.52	2.24	0.67	2-1/2	2-7/8	1500

Swivel nut may be secured by either pinning or crimping to fitting body

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless



Download CAD Drawing

Swivel Nut Branch Tee

AM-SBT

Tube to Swivel

Connects fractional tube to male SAE Flareless fitting

SSP Part Number	Tube O.D.	T Thread	T1 Thread	D Through Hole	I	L	L1	L2	L3	L4	W Wrench Flat	W1 Hex	SS Working Pressure
AM2SBT	1/8	5/16 - 24	5/16 - 24	0.09	0.19	1.08	0.77	0.98	0.81	0.36	7/16	7/16	5000
AM3SBT	3/16	3/8 - 24	3/8 - 24	0.13	0.23	1.17	0.83	1.02	0.84	0.41	7/16	1/2	5000
AM4SBT	1/4	7/16 - 20	7/16 - 20	0.20	0.23	1.31	0.89	1.05	0.83	0.44	7/16	9/16	5000
AM5SBT	5/16	1/2 - 20	1/2 - 20	0.23	0.25	1.37	0.95	1.14	0.92	0.44	9/16	5/8	5000
AM6SBT	3/8	9/16 - 18	9/16 - 18	0.28	0.25	1.52	1.05	1.28	1.01	0.45	9/16	11/16	5000
AM8SBT	1/2	3/4 - 16	3/4 - 16	0.42	0.25	1.75	1.25	1.47	1.22	0.55	3/4	7/8	5000
AM10SBT	5/8	7/8 - 14	7/8 - 14	0.50	0.35	1.95	1.42	1.61	1.31	0.61	7/8	1	4500
AM12SBT	3/4	1-1/16 - 12	1-1/16 - 12	0.66	0.35	2.14	1.58	1.77	1.42	0.67	1-1/16	1-1/4	4000
AM16SBT	1	1-5/16 - 12	1-5/16 - 12	0.88	0.42	2.39	1.73	1.86	1.61	0.67	1-5/16	1-1/2	3000
AM20SBT	1-1/4	1-5/8 - 12	1-5/8 - 12	1.09	0.42	2.61	1.89	2.08	1.81	0.67	1-5/8	2	2500
AM24SBT	1-1/2	1-7/8 - 12	1-7/8 - 12	1.34	0.49	2.74	2.02	2.20	1.91	0.67	1-7/8	2-1/4	2000
AM32SBT	2	2-1/2 - 12	2-1/2 - 12	1.81	0.49	3.29	2.45	2.52	2.24	0.67	2-1/2	2-7/8	1500

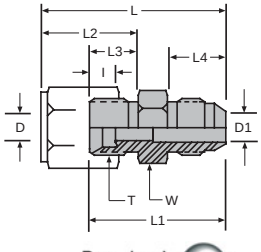
Swivel nut may be secured by either pinning or crimping to fitting body

Union

AMJ-U

Tube to Tube Adapter

Connects fractional tube to flared tube



Download CAD Drawing

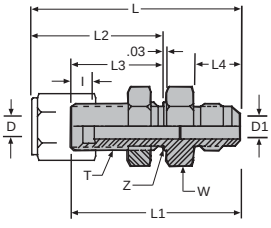
SSP Part Number	Tube O.D.	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	L4	W Hex	SS Working Pressure
AMJ2U	1/8	5/16 - 24	0.09	0.06	0.19	1.36	1.05	0.76	0.38	0.45	7/16	5000
AMJ3U	3/16	3/8 - 24	0.13	0.13	0.23	1.46	1.12	0.85	0.42	0.48	7/16	5000
AMJ4U	1/4	7/16 - 20	0.20	0.17	0.23	1.70	1.22	0.91	0.45	0.55	1/2	5000
AMJ5U	5/16	1/2 - 20	0.23	0.23	0.25	1.70	1.22	0.96	0.45	0.55	9/16	5000
AMJ6U	3/8	9/16 - 18	0.28	0.30	0.25	1.77	1.28	1.03	0.47	0.56	5/8	5000
AMJ8U	1/2	3/4 - 16	0.42	0.39	0-31	2.03	1.47	1.16	0.56	0.66	13/16	5000
AMJ10U	5/8	7/8 - 14	0.50	0.48	0.35	2.28	1.70	1.41	0.63	0.76	15/16	5000
AMJ12U	3/4	1-1/16 - 12	0.66	0.61	0.35	2.52	1.93	1.47	0.69	0.86	1-1/8	4500
AMJ14U	7/8	1-3/16 - 12	0.72	0.72	0.35	2.52	1.96	1.58	0.69	0.89	1-1/4	4000
AMJ16U	1	1-5/16 - 12	0.88	0.84	0.42	2.67	1.98	1.66	0.69	0.91	1-3/8	4000
AMJ20U	1-1/4	1-5/8 - 12	1.09	1.08	0.42	2.78	2.11	1.69	0.69	0.96	1-11/16	3000
AMJ24U	1-1/2	1-7/8 - 12	1.34	1.31	0.49	2.90	2.30	2.13	0.69	1.08	2	2000
AMJ32U	2	2-1/2 - 12	1.81	1.78	0.49	2.96	2.70	2.41	0.69	1.33	2-5/8	1500

Pressure Ratings Based on ASME B31.3 Power Piping Code

Bulkhead Union

AMJ-BU

Tube to Tube Adapter
Connects fractional tube to flared tube



Download CAD Drawing

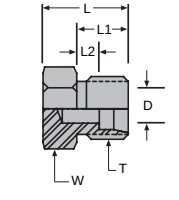
SSP Part Number	Tube O.D.	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	L3	L4	W Hex	Z	SS Working Pressure
AMJ2BU	1/8	5/16 - 24	0.09	0.06	0.19	2.00	1.78	1.33	1.02	0.45	9/16	0.31	5000
AMJ3BU	3/16	3/8 - 24	0.13	0.13	0.23	2.13	1.86	1.40	1.06	0.48	5/8	0.38	5000
AMJ4BU	1/4	7/16 - 20	0.20	0.17	0.23	2.31	1.99	1.54	1.12	0.55	11/16	0.44	5000
AMJ5BU	5/16	1/2 - 20	0.23	0.23	0.25	2.36	1.99	1.54	1.12	0.55	3/4	0.50	5000
AMJ6BU	3/8	9/16 - 18	0.28	0.30	0.25	2.47	2.07	1.64	1.17	0.56	13/16	0.56	5000
AMJ8BU	1/2	3/4 - 16	0.42	0.39	0.31	2.78	2.32	1.81	1.31	0.66	1	0.75	5000
AMJ10BU	5/8	7/8 - 14	0.50	0.48	0.35	3.22	2.61	1.98	1.45	0.76	1-1/8	0.88	4500
AMJ12BU	3/4	1-1/16 - 12	0.66	0.61	0.35	3.44	2.89	2.12	1.56	0.86	1-3/8	1.06	4000
AMJ14BU	7/8	1-3/16 - 12	0.72	0.72	0.35	3.55	2.92	2.09	1.56	0.89	1-1/2	1.19	3000
AMJ16BU	1	1-5/16 - 12	0.88	0.84	0.42	3.63	2.94	2.22	1.56	0.91	1-5/8	1.31	3000
AMJ20BU	1-1/4	1-5/8 - 12	1.09	1.08	0.42	3.66	3.07	2.28	1.56	0.96	1-7/8	1.63	2500
AMJ24BU	1-1/2	1-7/8 - 12	1.34	1.31	0.49	4.10	3.26	2.28	1.56	1.08	2-1/8	1.88	2000
AMJ32BU	2	2-1/2 - 12	1.81	1.78	0.49	4.59	3.87	2.61	1.77	1.33	2-3/4	2.50	1500

Shown with Bulkhead Nut. To order without Bulkhead Nut, add suffix "X" to SSP Part Number.

Plug

M-P

Plug
Plugs end of fractional tube



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure
M2P	1/8	5/16 - 24	0.09	0.63	0.38	0.19	7/16	6000
M3P	3/16	3/8 - 24	0.13	0.68	0.42	0.23	7/16	6000
M4P	1/4	7/16 - 20	0.20	0.71	0.45	0.23	1/2	6000
M5P	5/16	1/2 - 20	0.23	0.71	0.45	0.25	9/16	6000
M6P	3/8	9/16 - 8	0.28	0.75	0.47	0.25	5/8	6000
M8P	1/2	3/4 - 16	0.42	0.85	0.56	0.31	13/16	5000
M10P	5/8	7/8 - 14	0.50	0.97	0.63	0.35	15/16	5000
M12P	3/4	1-1/16 - 12	0.66	1.10	0.69	0.35	1-1/8	4500
M14P	7/8	1-3/16 - 12	0.72	1.10	0.69	0.35	1-1/4	4000
M16P	1	1-5/16 - 12	0.88	1.10	0.69	0.42	1-3/8	4000
M20P	1-1/4	1-5/8 - 12	1.09	1.18	0.69	0.42	1-11/16	3000
M24P	1-1/2	1-7/8 - 12	1.34	1.25	0.69	0.49	2	2000
M32P	2	2-1/2 - 12	1.81	1.40	0.69	0.49	2-5/8	1500

Pressure Ratings Based on ASME B31.3 Power Piping Code

SAE Flareless

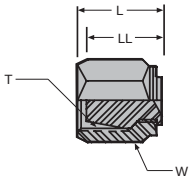
Cap

AM-Z-2

Cap

Caps male SAE Flareless fitting

SSP Part Number	Tube O.D.	T Thread	L	LL	W Hex	SS Working Pressure
AM2Z-2	1/8	5/16 - 24	0.36	0.58	3/8	6000
AM3Z-2	3/16	3/8 - 24	0.42	0.64	7/16	6000
AM4Z-2	1/4	7/16 - 20	0.54	0.72	9/16	6000
AM5Z-2	5/16	1/2 - 20	0.60	0.74	5/8	6000
AM6Z-2	3/8	9/16 - 18	0.67	0.77	11/16	6000
AM8Z-2	1/2	3/4 - 16	0.86	0.93	7/8	5000
AM10Z-2	5/8	7/8 - 14	0.98	0.94	1	5000
AM12Z-2	3/4	1-1/16 - 12	1.24	0.93	1-1/4	4500
AM14Z-2	7/8	1-3/8 - 12	1.36	0.96	1-3/8	4000
AM16Z-2	1	1-5/16 - 12	1.48	1.08	1-1/2	4000
AM20Z-2	1-1/4	1-5/8 - 12	1.98	1.19	2	3000
AM24Z-2	1-1/2	1-7/8 - 12	2.24	1.29	2-1/4	2000
AM32Z-2	2	2-1/2 - 12	2.86	1.27	2-7/8	1500



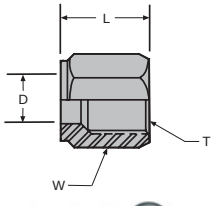
Download CAD Drawing

Nut

M-N

Component

SSP Part Number	Tube O.D.	T Thread	D Through Hole	L	W Hex
M2N	1/8	5/16 - 24	0.13	0.53	3/8
M3N	3/16	3/8 - 24	0.19	0.61	7/16
M4N	1/4	7/16 - 20	0.26	0.70	9/16
M5N	5/16	1/2 - 20	0.32	0.72	5/8
M6N	3/8	9/16 - 18	0.38	0.75	11/16
M8N	1/2	3/4 - 16	0.51	0.84	7/8
M10N	5/8	7/8 - 14	0.63	0.92	1
M12N	3/4	1-1/16 - 12	0.76	0.97	1-1/4
M14N	7/8	1-3/16 - 12	0.88	1.00	1-3/8
M16N	1	1-5/16 - 12	1.01	1.05	1-1/2
M20N	1-1/4	1-5/8 - 12	1.26	1.05	2
M24N	1-1/2	1-7/8 - 12	1.51	1.03	2-1/4
M32N	2	2-1/2 - 12	2.01	1.12	2-7/8



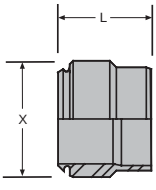
Download CAD Drawing

Inch Sleeve

M-S

Component

SSP Part Number	Tube O.D.	L	X
M2S	1/8	0.29	0.24
M3S	3/16	0.33	0.31
M4S	1/4	0.36	0.37
M5S	5/16	0.37	0.43
M6S	3/8	0.30	0.49
M8S	1/2	0.43	0.66
M10S	5/8	0.44	0.78
M12S	3/4	0.47	0.93
M14S	7/8	0.47	1.04
M16S	1	0.47	1.19
M20S	1-1/4	0.47	1.45
M24S	1-1/2	0.47	1.69
M32S	2	0.51	2.21



Download CAD Drawing

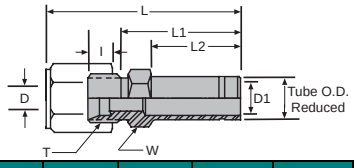
Pressure Ratings Based on ASME B31.3 Power Piping Code

Tube End Reducer

AM-TER

Component

Connects fractional tube to port

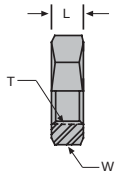


SSP Part Number	Tube O.D.	Tube O.D. Reduced	T Thread	D Through Hole	D1 Through Hole	I	L	L1	L2	W Hex	SS Working Pressure
AM4-2TER	1/4 - 1/8	1/4	5/16 - 24	0.09	0.17	0.19	1.82	1.51	0.88	7/16	5000
AM6-4TER	3/8 - 1/4	3/8	7/16 - 20	0.20	0.25	0.23	2.03	1.61	0.88	1/2	6000
AM6-5TER	3/8 - 5/16	3/8	1/2 - 20	0.23	0.25	0.25	2.03	1.61	0.88	9/16	6000
AM8-4TER	1/2 - 1/4	1/2	7/16 - 20	0.20	0.38	0.23	2.15	1.73	1.00	9/16	5000
AM8-6TER	1/2 - 3/8	1/2	9/16 - 18	0.28	0.38	0.25	2.24	1.77	1.00	5/8	5000
AM10-8TER	5/8 - 1/2	5/8	3/4 - 16	0.42	0.50	0.31	2.46	1.96	1.09	13/16	5000
AM12-8TER	3/4 - 1/2	3/4	3/4 - 16	0.42	0.63	0.31	2.53	2.03	1.16	13/16	4500
AM12-10TER	3/4 - 5/8	3/4	7/8 - 14	0.50	0.63	0.35	2.68	2.15	1.16	15/16	4500
AM16-12TER	1 - 3/4	1	1-1/16 - 12	0.66	0.84	0.35	2.80	2.24	1.12	1-1/8	4000
AM20-16TER	1-1/4 - 1	1-1/4	1-5/16 - 12	0.88	1.03	0.42	2.94	2.28	1.16	1-3/8	3000
AM24-16TER	1-1/2 - 1	1-1/2	1-5/16 - 12	0.88	1.25	0.42	3.11	2.45	1.25	1-5/8	2000
AM24-20TER	1-1/2 - 1-1/4	1-1/2	1-5/8 - 12	1.09	1.25	0.42	3.17	2.45	1.25	1-11/16	2000
AM32-24TER	2 - 1-1/2	2	1-7/8 - 12	1.34	1.75	0.49	3.17	2.45	1.25	2-1/4	1500

Bulkhead Locknut

BN

Component

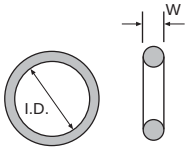


SSP Part Number	Tube O.D.	T Thread	L	W Hex
2BN	1/8	5/16 - 24	9/16	0.22
3BN	3/16	3/8 - 24	5/8	0.22
4BN	1/4	7/16 - 20	11/16	0.25
5BN	5/16	1/2 - 20	3/4	0.25
6BN	3/8	9/16 - 18	13/16	0.27
8BN	1/2	3/4 - 16	1	0.31
10BN	5/8	7/8 - 14	1-1/8	0.36
12BN	3/4	1-1/16 - 12	1-3/8	0.41
14BN	7/8	1-3/16 - 12	1-1/2	0.41
16BN	1	1-5/16 - 12	1-5/8	0.41
20BN	1-1/4	1-5/8 - 12	1-7/8	0.41
24BN	1-1/2	1-7/8 - 12	2-1/2	0.41
32BN	2	2-1/2 - 12	2-3/4	0.41

Straight Thread Boss O-Ring

R

Component



SSP Part Number	Part Number Viton	SAE Size	Tube O.D.	I.D.	W
2R	2VR	3-902	1/8	0.24	0.06
3R	3VR	3-903	3/16	0.30	0.06
4R	4VR	3-904	1/4	0.35	0.07
5R	5VR	3-905	5/16	0.41	0.07
6R	6VR	3-906	3/8	0.47	0.08
8R	8VR	3-908	1/2	0.64	0.09
10R	10VR	3-910	5/8	0.76	0.10
12R	12VR	3-912	3/4	0.92	0.12
14R	14VR	3-914	7/8	1.05	0.12
16R	16VR	3-916	1	1.17	0.12
20R	20VR	3-920	1-1/4	1.48	0.12
24R	24VR	3-924	1-1/2	1.72	0.12
32R	32VR	3-932	2	2.34	0.12

Standard material is Buna

Pressure Ratings Based on ASME B31.3 Power Piping Code

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Hose Fittings

Section Overview

Hose Fittings

SSP designs, manufactures, and tests hose fittings for most SAE J517 designated hose, Mil-Spec hose, flexible rubber & polymer compound tubing & hose, and flexible stainless steel metal hose.

Hose/Tubing	Fitting System	Temperature	Working Pressure (per specification)	Construction
HYDRAULIC				
SAE 100R1 AT	AH402 & HL	-40 to 212°F	3000 psi	Single wire braid, synthetic rubber tube & cover.
SAE 100R2 A	AH407	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
SAE 100R2 AT	AH300 & HL	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
SAE 100R5, J1402	AH200 & 202	-40 to 212°F	3000 psi	Single wire braid with outer textile braid cover, synthetic rubber tube.
SAE 100R9 A	AH437	-40 to 212°F	4500 psi	Four spiral wire braid, synthetic rubber tube & cover.
SAE 100R12 A	AH477	-40 to 250°F	4000 psi	Four spiral wire braid, synthetic rubber tube & cover.
SAE 100R16	HL	-40 to 212°F	5000 psi	One or Two wire braid, synthetic rubber tube & cover.
DIN 20 022 type 1SN	AH402	-40 to 212°F	3000 psi	Single wire braid, synthetic rubber tube & cover.
DIN 20 022 type 2SN	AH300	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
DIN 20 022 type 2ST	AH407	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
MIL-H-24135/1	AH407	-40 to 212°F	5000 psi	Single wire braid, synthetic rubber tube & cover.
MIL-H-52471	AH477	-40 to 250°F	4000 psi	Four spiral wire, synthetic rubber tube & cover.
TEFLON				
SAE 100R14	AH900, H940	-65 to 400°F	1500 psi	Inner tube of PTFE reinforced with a single braid of stainless steel.
MIL-H-27267	AH920, H840	-65 to 400°F	1500 psi	Inner tube of PTFE reinforced with a single braid of stainless steel.
THERMOPLASTIC				
SAE 100R7	AH561	-40 to 200°F	3000 psi	Nylon inner tube, reinforced with synthetic or Aramid fiber, preforated polyurethane cover.
SAE 100R8	AH561	-40 to 200°F	5000 psi	Nylon inner tube, reinforced with synthetic or Aramid fiber, preforated polyurethane cover.
PUSH-ON				
Push-Lok/ Socketless style	H802	-40 to 200°F	350 psi	Single textile braid, synthetic rubber tube & cover.
SAE 100R4	H808	-40 to 212°F	300 psi	Single spiral of body wire reinforced with textile braid. Synthetic rubber tube & cover.
Bev-A-Line®	M2HC	-60 to 160°F	50 psi	PE liner with EVA shell. Clear transparent FDA/USDA tubing
ETFE	MHC	-150 to 300°F	100 psi	Ethylene tetrafluoroethylene tubing for high temp chemicals.
Gum Rubber	M2HC	-15 to 150°F	300 psi	Extruded elastomer for water & air. Thick wall ideal for light vacuum.
Kynar®	MHC	-40 to 260°F	100 psi	Fluoropolymer vinylidene fluoride; impact & abrasion resistant.
Nylon Tubing	MHC	-40 to 200°F	100 psi	Synthetic plastic material composed of polyamides.
Norprene®	M2HC	-60 to 275°F	400 psi	A-60-F IB formulation; heat & UV resistance with higher pressure
Pharmed®	M2HC	-75 to 275°F	100 psi	Biocompatible tubing for peristaltic pump lines.
Polyethylene	MHC	-100 to 175°F	100 psi	Low cost viynl polymer used as electrical insulating pipe
Polyurethane	M2HC/MHC	-70 to 185°F	300 psi	Ester-based compound with good abrasion resistance & insultation
PTFE	MHC	-100 to 450°F	100 psi	Polytetrafluoroethylene (teflon). Opaque & rigid. Chemically inert.
Silicone	M2HC	-60 to 400°F	200 psi	Silicone-based tubing in various formulations for purity applications
Tygon®	M2HC	-40 to 125°F	300 psi	Clear, flexible tubing for beverage, dairy and lab applications.
Viton®	MHC	-25 to 400°F	300 psi	Fluoroelastomer known for heat resistance.
WELD-ON				
Stainless Steel	BH		2700 psi	Inner tube of bellowed s.s. reinforced with a single s.s. braid.

Hydraulok

Hydraulok hose fittings, a line of permanently attached hose fittings from SSP Fittings Corp., are available for use with medium pressure hydraulic, Teflon, thermoplastic, and metal hose. Hydraulok fittings are attached by means of swaging, crimping or welding. For ease in finding the fitting solution for your needs, Hydraulok hose fittings are broken in to four categories: Hydraulic, Teflon, Thermoplastic and Metal.

Hydraulic

Hydraulok hydraulic fittings are one piece fittings manufactured from 316 stainless steel. They are designed to work with SAE 100R1AT, SAE 100R2AT, and SAE 100R16 hydraulic hose, in a range of operating conditions. The design features deep tapped inner threads in the collar that grip the outer rubber cover of the hose when the fitting is correctly attached to the hose. The short collar design combined with the rigid insert allows for a clean single crimp finish.

Hydraulic Hydraulok fittings are durable and dependable corrosion resistant fittings often used in marine, oil, gas, critical application and defense industries.

Specifications & Operating Parameters

Standards & Approvals
SAE J516 & J517

Pressures
Medium. Up to 3,000 psi depending on hose construction and fitting configuration.

Temperatures (limiting by the composition of the hose)
Nitrile/Buna-N from –30 to 250°F

Vibration
Medium to High. Depending on end fitting connection.

Teflon

Hydraulok Teflon hose fittings are two piece fittings manufactured from 300 series stainless steel. They are designed to work with SAE 100R14 and MIL-H-27267 hose in an extensive range of temperatures and applications. The short collar design assures ease of hose insertion for quick and efficient assemblies. The collar slides over the stainless steel outer braid of the hose while the insert supports the soft Teflon inner tube. The crimping/swaging action secures the hose between the collar and the insert to create a clean finish.

Hydraulok Teflon Hose fittings are designed for higher purity or temperature environments and water-, synthetic- and petroleum based hydraulic fluid applications.

Specifications & Operating Parameters

Standards & Approvals
SAE J517

Pressures
Medium. Up to 1,500 psi (per SAE J517) or higher depending on hose construction and fitting configuration.

Temperatures (limiting by the composition of the hose)
PTFE/Teflon from –100° to 450°F

Vibration
Medium to High. Depending on end fitting connection.

Thermoplastic

Hydraulok thermoplastic one piece fittings are manufactured from 316 stainless steel. Designed to work with SAE 100R7/100R8 hose in a variety of high-pressure applications, Hydraulok thermoplastic hose fittings are easily assembled for crimping. The weather resistant thermoplastic hose cover combined with the non-corrosive attributes of the fittings create a flexible assembly for a range of conditions.

Hydraulok Thermoplastic hose fittings are often found in hydraulics systems, mobile equipment, and high pressure pneumatic systems.

Specifications & Operating Parameters

Standards & Approvals
SAE J517

Pressures
High. Up to 5,000 psi depending on hose construction and fitting configuration.

Temperatures (limiting by the composition of the hose)
-40° to 200°F

Vibration
Medium to High. Depending on end fitting connection.

Metal

Hydraulok metal hose fittings are one piece designed fittings made from T316L low carbon stainless steel with an integral hex body. The hex provides a surface for applying a wrench during installation. This feature helps users avoid premature fatigue failure of the hose assembly caused by torquing the hose during installation. The butt weld design features a tapered boss surface to provide ample surface area for welding filler material. The butt weld also has a significant wall thickness to avoid burning through the wall during welding.

Hydraulok Metal hose fittings are used with high pressure or low pressure flex metal hose frequently in extremely corrosive environments for chemical or water transfer. It is also used in high temperature environments for low and medium pressure hydraulics, and for liquid or gas transfer in cryogenic systems.

Specifications & Operating Parameters

Standards & Approvals
ASME B31.3

Pressures
Medium. Up to 2,700 psi depending on hose.

Temperatures (limiting by the composition of the hose)
-425° to 1200°F

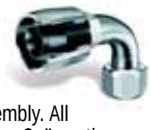
Vibration
Medium

Field Attachable

SSP Fittings' field attachable hose fittings are available for use with most types of hydraulic, Teflon and Push-On hose. All of the field attachable hose fittings are reusable and are designed for use in mobile applications where welding, crimping or swaging equipment is not available. For ease in finding the fitting solution for your needs, field attachable hose fittings are broken in to three categories: Hydraulic, Teflon, and Push-On.

Hydraulic

Hydraulic field attachable fittings consist of two pieces: the insert and the socket, or collar. The insert has machined threads along the outer diameter, which engage the socket during assembly. The socket has deep-tapped inner threads, which allow the hose cover to expand so that sharp lead threads can cut a spiral path into the hose jacket. Following the lead threads are spaced blunt threads that fill with the outer rubber cover of the hose during assembly. All inserts have SSP's exclusive impregnated "Easy-On" coating which reduces the amount of torque required during assembly and increases the reusability of the fitting.



Field attachable hydraulic hose fittings are designed to enable repair and replacement in the field with minimal downtime. SSP regularly tests our field attachable hose fittings to industry specifications on hose certified to published standards of the Society of Automotive Engineers.

Specifications & Operating Parameters

Standards & Approvals
SAE J517, MIL-F-24787

Pressures
Medium to High. Up to 5,000 psi depending on the hose and fitting configuration

Temperatures (limiting by the composition of the hose)
Nitrile/Buna-N from –30 to 250°F

Vibration
Medium to High. Depending on end fitting connection.

Teflon

Teflon field attachable fittings are three piece fittings that include an insert, ferrule and socket, or collar. The insert is installed inside the Teflon hose tube, and the ferrule is wedged over the tube and under the stainless steel braid. The socket then slides over the stainless braid and over the body. While threading, the internal tap threads on the socket compress against the ferrule, driving it into the Teflon tube; the insert supports the soft Teflon tube.

Field attachable Teflon hose fittings are designed for use in higher purity or temperature environments where a rubber tube hose product is not specified, applications where higher flow rates are sought, and manufacturing environments with frequent unscheduled maintenance.

Specifications & Operating Parameters

Standards & Approvals
SAE J517

Pressures
Medium. Up to 1,500 psi (per SAE J517) or higher depending on hose construction and fitting configuration.

Temperatures (limiting by the composition of the hose)
PTFE/Teflon from –100° to 450°F

Vibration
Medium to High. Depending on end fitting connection.

Push-On

Push-On field attachable hose fittings are one piece fittings manufactured from T316 stainless steel, for use in low-pressure systems. The H802 series also feature a blue plastic hose stop, which is slipped over the barbs to give the installed assembly a clean, fitted appearance. One end of the fitting features barbs or serrations, both have a high surface finish (32 microinches or better) to ensure a clean smooth sealing surface. SSP recommends banding the hose or tubing around the middle to top barbs to avoid a blow-off or leak for all fittings except the H802 series, which does not require banding.

Field attachable Push-On hose fittings cover a broad range of applications. From flexible tubing for pharmaceuticals to suction lines in chemical transfer systems, the appropriate style of fitting is indicated by the hose or tubing selected for the application.

How to Order

Hydraulok Hose Fittings

Hydraulic
Metal

Example: HL4FJ4
Example: 1/4BHC1/4

HL	4	FJ	4
Hydraulok	**Hose I.D.** (Chart #1)	**Body Type** (Chart #2)	**2nd End** (Chart #3)

Chart # 1 Hose I.D.	
4	1/4
5	5/16
6	3/8
8	1/2
10	5/8
12	3/4
16	1
20	1-1/4
24	1-1/2
32	2

Chart #2 Body Type	
FC	Female Connector
FJ	Female JIC
FL	Code 61 Flange
GC	O-ring Boss
GJ	Male UltraFlare
J	Male AN/JIC
MC	Male NPT
TA	Tube Adapter
BHC	Metal Male Thread
BHJS	Metal SAE 37° Flare
BHFC	Metal Female Thread

Chart #3 Second End	
4	1/4
5	5/16
6	3/8
8	1/2
10	5/8
12	3/4
14	7/8
16	1
20	1-1/4
24	1-1/2
32	2

How to Order

Hydraulok Hose Fittings

Thermoplastic
Teflon

Example: AH56120-6-6

A	H561	20	6	6
Assembly	**Family Designation** (Chart #1)	**Configuration** (Chart #2)	**Thread Size** (Chart #3)	**Hose Dash Size** (Chart #4)

Chart # 1 Hose I.D.	
H561	SAE 100R7/R8
H940	SAE 100R14
H980	MIL-H-27267

Chart #2 End Configuration	
20	Male NPT
50	SAE 37° Swivel

Chart #3 Thread Size	
4	1/4
6	3/8
8	1/2
10	5/8
12	3/4
16	1

Chart #4 Hose Dash Size	
4	1/4
6	3/8
8	1/2
10	5/8
12	3/4
16	1

How to Order

Field Attachable Hose Fittings

Hydraulic
Teflon

A	H300	50	4	4	M
Assembly with Socket	**Family Designation** (Chart #1)	**Configuration** (Chart #2)	**Tube or Thread Size** (Chart #3)	**Hose Dash Size** (Chart #4)	**Special Modifiers** (Chart #5)

Chart #1 Family Designation	
200	SAE 100R5 Type AT Non Mandrel
202	SAE 100R5 Type A Mandrel Style
300	SAE 100R2 Type AT/DIN20022 Type 2SN
402	SAE 100R1 Type AT/DIN20022 Type 1SN
407	SAE 100R2 Type A/DIN20022 Type 2ST
477	SAE 100R12 Type A
501	SAE 100R7 Thermoplastic
900	SAE 100R14 Teflon®
920	SAE MIL-H-27267 Teflon®

Chart #2 End Configurations	
05	Male SAE 37°
07	Male SAE Flareless
17	Soft-Seal, Nav-Sea Swivel
19	Soft-Seal, SAE Swivel
20	Male NPT
50	SAE 37° Swivel
51	SAE 37° Swivel, 90° bent tube
80	Tube Socket

Chart #3 Tube OD or Thread Size	
4	1/4
6	3/8
8	1/2
10	5/8
12	3/4
16	1
20	1 1/4
24	1 1/2
32	2

Chart #4 Hose Dash Size		
Dash Size	Hydraulic	Nominal Teflon (100R14)
4	1/4	3/16
5	5/16	1/4
6	3/8	5/16
8	1/2	13/32
10	5/8	1/2
12	3/4	5/8
16	1	7/8
20	1 1/4	1 1/8
24	1 1/2	-
32	2	-

Chart #5 Special Modifiers	
C	303 SS
B	Brass
M	Monel®

How to Order

Field Attachable Hose Fittings

Push-On

Example: 3/8MHC1/8

3/8	MHC	1/8
Hose I.D. (Chart #1)	**Body Style** (Chart #2)	**2nd End** (Chart #3)

Chart #1 Hose ID
1/8
1/4
3/8
1/2
3/4
1
1-1/4
1-1/2
2

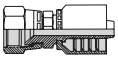
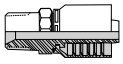
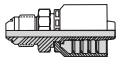
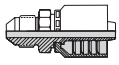
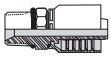
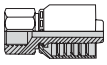
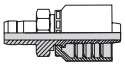
Chart #2 Body Style	
MHC	Push-On Serrated Male Thread
M2HC	Push-On Barb Male Thread
M2HME	Push-on Male Thread

Chart #3 2nd End	
2	1/8
4	1/4
6	3/8
8	1/2
12	3/4
16	1

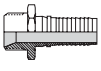
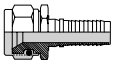
Visual Index

Hydraulok

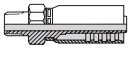
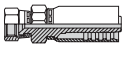
Hydraulic - SAE 100R1AT/R2AT/R16

Hose to Swivel  HL-FJ 119	Hose to Male Pipe  HL-MC 119	Hose to Tube  HL-GJ 119	Hose to Swivel  HL-J 120	Hose to O-ring Boss  HL-GC 120
Hose to Female Pipe  HL-FC 120	Straight  HL-TA 121	Hose to Flange  HL-FL61 121		

Teflon - SAE 100R14/MIL-H-27267

Hose to Male Pipe  H94020 121	Collar - Crimp/ Swage  H94000 122	Hose to Female Swivel  H94050 121	Collar - Crimp/ Swage  H98000 122

Thermoplastic - SAE100R7/R8

Hose to Swivel  AH56120 122	Hose to Swivel  AH56150 122

Metal

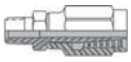
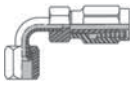
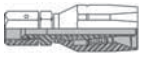
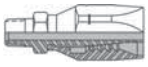
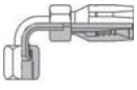
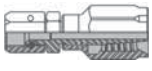
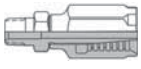
Hose to Male Pipe  BHC 123	Hose to Swivel  BHJS 123	Hose to Female Pipe  BHFC 123

Our selection guide makes it easy to locate any fitting. Simply turn to the page designated in the lower right hand corner.

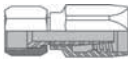
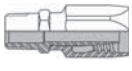
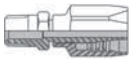
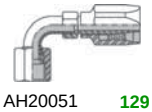
Visual Index

Field Attachable

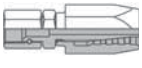
Hydraulic - SAE 100R1AT/100R2AT/100R16

Hose to Swivel  AH40250 125	Hose to Male Pipe  AH40220 124	Hose to Swivel  AH40251 128	Hose to Swivel  AH40750 126	Hose to Male Pipe  AH40720 124
Hose to Swivel  AH40751 128	Hose to Swivel  AH30050 126	Hose to Male Pipe  AH30020 124	Hose to Swivel  AH30051 128	Hose to Soft Seal  AH30017 129

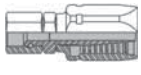
Hydraulic - SAE 100R5

Hose to Swivel  AH20250 127	Hose to Male Pipe  AH20220 125	Hose to Swivel  AH20050 127	Hose to Male Pipe  AH20020 124	Hose to Swivel  AH20051 129	Hose to Soft Seal  AH20017 129

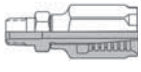
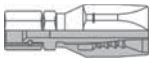
Hydraulic - SAE100R7

Hose to Swivel  AH50150 127

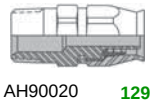
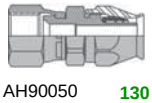
Hydraulic - SAE100R9

Hose to Swivel  AH30450 127

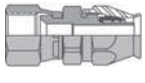
Hydraulic - SAE100R12

Hose to Male Pipe  AH47720 125	Hose to Swivel  AH47750 128

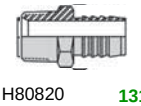
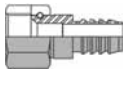
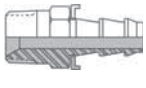
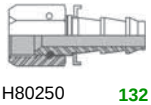
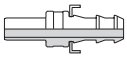
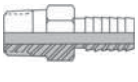
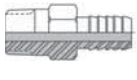
Teflon - SAE 100R14

Hose to Male Pipe  AH90020 129	Hose to Swivel  AH90050 130

Teflon - MIL-H-27267

Hose to Male Pipe  AH92020 130	Hose to Swivel  AH92050 130

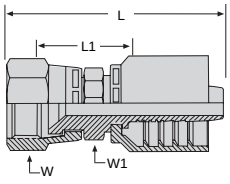
Push-On

SAE 100R4  H80820 131	SAE 100R4  H80850 131	Hose to Male Pipe  H80220 131	Hose to Swivel  H80250 132
Tube Stub Connectors  H80293 132	Hose to Male Pipe  MHC 132	Hose to Male Pipe  M2HC 133	Hose to Male Pipe  M2HME 131

Hydraulok

SAE 100R1AT/100R2AT/100R16 Female 37° Swivel Connector

HL-FJ



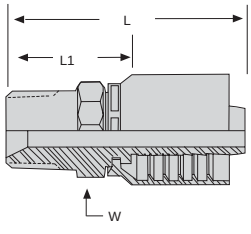
Hose to Swivel
Connects hose to male AN/SAE 37° Flare

SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex
HL4FJ4	7/16 - 20	1/4	2.13	0.81	9/16	5/8
HL4FJ6	9/16 - 18	1/4	2.16	0.82	9/16	13/16
HL6FJ6	9/16 - 18	3/8	2.28	0.84	11/16	13/16
HL6FJ8	3/4 - 16	3/8	2.45	0.95	11/16	1
HL8FJ8	3/4 - 16	1/2	2.68	1.01	13/16	1
HL8FJ10	7/8 - 14	1/2	2.84	1.09	7/8	1-1/16
HL10FJ10	7/8 - 14	5/8	3.07	1.20	1	1-1/16
HL12FJ12	1 1/16 -12	3/4	3.27	1.17	1 1/16	1 1/4
HL16FJ16	1 5/16 - 12	1	3.74	1.37	1 1/4	1 1/2

Swivel nut may be secured by either pinning or crimping to fitting body.

SAE 100R1AT/100R2AT/100R16 Male Pipe Connector

HL-MC

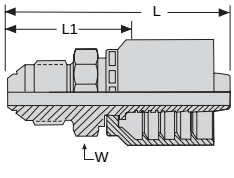


Hose to Male Pipe
Connects hose to female NPT thread

SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex
HL4MC4	1/4 - 18	1/4	2.01	1.04	11/16
HL6MC6	3/8 - 18	3/8	2.09	1.04	13/16
HL8MC8	1/2 - 14	1/2	2.58	1.34	7/8
HL10MC8	1/2 - 14	5/8	2.69	1.34	15/16
HL12MC12	3/4 - 14	3/4	2.92	1.36	1 1/16
HL16MC16	1 - 11-1/2	1	3.46	1.71	1 7/16

SAE 100R1AT/100R2AT/100R16 Male Connector

HL-GJ



Hose to Tube
Connects hose to flared fractional or metric tube

SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex
HL4GJ4	7/16-20	1/4	1.97	1.00	1/2
HL4GJ5	1/2-20	1/4	2.01	1.04	9/16
HL4GJ6	9/16-18	1/4	2.01	1.04	11/16
HL5GJ6	9/16-18	5/16	2.01	1.04	11/16
HL6GJ6	9/16-18	3/8	2.09	1.04	11/16
HL6GJ8	3/4-16	3/8	2.19	1.14	13/16
HL6GJ10	7/8-14	3/8	2.37	1.32	15/16
HL8GJ8	3/4-16	1/2	2.41	1.17	13/16
HL8GJ10	7/8-14	1/2	2.59	1.35	15/16
HL8GJ12	1-1/16-12	1/2	2.70	1.46	1-1/16
HL10GJ10	7/8-14	5/8	2.7	1.35	15/16
HL10GJ12	1-1/16-12	5/8	2.81	1.46	1-1/16
HL12GJ12	1-1/16-12	3/4	3.03	1.48	1-1/16
HL12GJ14	1-3/16-12	3/4	3.05	1.50	1-1/4
HL12GJ16	1-5/16-12	3/4	3.20	1.64	1-7/16
HL16GJ16	1-5/16-12	1	3.43	1.67	1-7/16
HL16GJ20	1-5/8-12	1	3.59	1.84	1-7/8

Flare end of fitting uses GJ-TR Teflon ring. See page 83 for replacements.

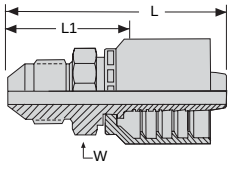
All Hydraulic Hose Fittings are 316SS.

Hydraulok

SAE 100R1AT/100R2AT/100R16 Male 37° Swivel Connector

HL-J

Hose to Swivel
Connects hose to female AN/SAE 37° Flare

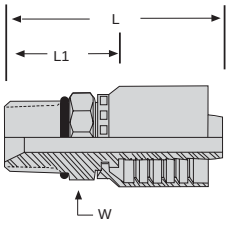


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex
HL4J4	7/16-20	1/4	1.97	1.00	1/2
HL4J5	1/2-20	1/4	2.01	1.04	9/16
HL4J6	9/16-18	1/4	2.01	1.04	11/16
HL5J6	9/16-18	5/16	2.01	1.04	11/16
HL6J6	9/16-18	3/8	2.09	1.04	11/16
HL6J8	3/4-16	3/8	2.19	1.14	13/16
HL6J10	7/8-14	3/8	2.37	1.32	15/16
HL8J8	3/4-16	1/2	2.41	1.17	13/16
HL8J10	7/8-14	1/2	2.59	1.35	15/16
HL8J12	1-1/16-12	1/2	2.70	1.46	1-1/16
HL10J10	7/8-14	5/8	2.7	1.35	15/16
HL10J12	1-1/16-12	5/8	2.81	1.46	1-1/16
HL12J12	1-1/16-12	3/4	3.03	1.48	1-1/16
HL12J14	1-3/16-12	3/4	3.05	1.50	1-1/4
HL12J16	1-5/16-12	3/4	3.20	1.64	1-7/16
HL16J16	1-5/16-12	1	3.43	1.67	1-7/16
HL16J20	1-5/8-12	1	3.59	1.84	1-7/8

SAE 100R1AT/100R2AT/100R16 Straight Thread Connector

HL-GC

Hose to O-Ring Boss
Connects hose to female SAE/MS straight thread

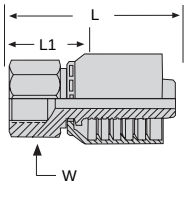


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex
HL4GC4	7/16-20	1/4	1.86	0.88	9/16
HL4GC5	1/2-20	1/4	1.86	0.88	5/8
HL4GC6	9/16-18	1/4	1.93	0.95	11/16
HL6GC6	9/16-18	3/8	2.00	0.95	13/16
HL6GC8	3/4-16	3/8	2.09	1.04	7/8
HL6GC10	7/8-14	3/8	2.19	1.14	1-1/16
HL8GC8	3/4-16	1/2	2.31	1.07	7/8
HL8GC10	7/8-14	1/2	2.33	1.09	1-1/16
HL8GC12	1-1/16-12	1/2	2.51	1.27	1-1/4
HL10GC12	1-1/16-12	5/8	2.67	1.27	1-1/4
HL12GC10	7/8-14	3/4	2.75	1.19	1-1/16
HL12GC12	1-1/16-12	3/4	2.84	1.29	1-1/4
HL12GC16	1-5/16-12	3/4	2.96	1.41	1-1/2
HL16GC16	1-5/16-12	1	3.19	1.44	1-1/2

SAE 100R1AT/100R2AT/100R16 Female Pipe Connector

HL-FC

Hose to Female Pipe
Connects hose to male NPT thread



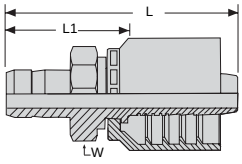
SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex
HL4FC4	1/4-18	1/4	2.07	1.09	13/16
HL6FC6	3/8-18	3/8	2.19	1.13	7/8
HL8FC8	1/2-12	1/2	2.64	1.40	1
HL12FC12	3/4-14	3/4	3.06	1.50	1-1/4

All Hydraulic Hose Fittings are 316SS.

Hydraulok

SAE 100R1AT/100R2AT/100R16 Male Standpipe

HL-TA

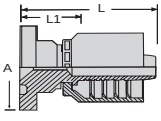


Tube Stub Connectors/Adapters
Connects hose to fractional port or tube socket

SSP Part Number	T Tube O.D.	Hose I.D.	L	L1	W Hex
HL4TA4	1/4	1/4	2.07	1.10	11/16
HL6TA6	3/8	3/4	2.15	1.18	13/16
HL8TA8	1/2	1/2	2.79	1.55	7/8
HL10TA10	5/8	5/8	2.94	1.59	1 1/16
HL12TA12	3/4	3/4	3.17	1.61	1/16
HL16TA16	1	1	3.82	2.07	7/16

SAE 100R1AT/100R2AT/100R16 Code 61 Flange

HL-FL61

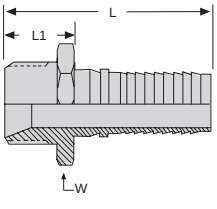


Hose to Code 61 Flange
Connects hose to Code 61 Flange

SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	A Flange Diameter
HL8FL8	1/2	1/2	2.85	1.61	1.19
HL8FL12	1/2	3/4	2.89	1.65	1.50
HL10FL12	5/8	3/4	3.01	1.66	1.50
HL12FL12	3/4	3/4	3.23	1.67	1.50
HL12FL16	3/4	1	3.54	1.99	1.75
HL16FL16	1	1	3.78	2.03	1.75
HL16FL20	1	1-1/4	3.88	2.13	2.00

SAE 100R14 Male Pipe Connector

H94020

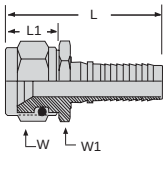


Hose to Male Pipe
Connects hose to Female NPT Thread

SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex
H94020-4-4	1/4 - 18	1/4	1.47	0.80	9/16
H94020-6-6	3/8 - 18	3/8	1.63	0.83	11/16
H94020-8-8	1/2 - 14	1/2	1.93	1.08	7/8
H94020-12-12	3/4 - 12	3/4	2.21	1.15	1-1/16

MIL-H-27267 Female 37° Swivel Connector

H94050



Hose to Female Swivel
Connects hose to AN/SAE 37° Flare

SSP Part Number	Hose I.D.	L	L1	W Hex	W1 Hex
H94050-4-4	1/4	1.07	0.28	9/16	1/2
H94050-6-6	3/8	1.31	0.39	11/16	5/8
H94050-8-8	1/2	1.42	0.45	7/8	3/4
H94050-12-12	3/4	1.69	0.50	1-1/4	1

Swivel nut may be secured by either pinning or crimping to body

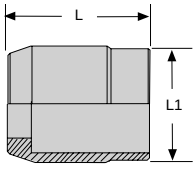
All Hydraulic Hose Fittings are 316SS.

Hydraulok

SAE 100R14 Collar

H94000

Collar - Crimp/Swage
For use with H94020 and H94050 inserts to fit SAE 100R14 hose

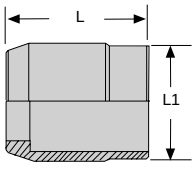


SSP Part Number	Hose I.D.	L	L1
H94000-4	1/4	0.63	0.38
H94000-6	3/8	0.74	0.51
H94000-8	1/2	0.80	0.60
H94000-12	3/4	1.00	0.86

.040" Wall/MIL-H-27267 Collar

H98000

Collar - Crimp/Swage
For use with H94020 and H94050 inserts to fit MIL-H-27267 .040" wall hose

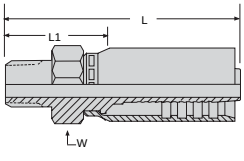


SSP Part Number	Hose I.D.	L	L1
H98000-4	1/4	0.55	0.41
H98000-6	3/8	0.72	0.53
H98000-8	1/2	0.80	0.64
H98000-12	3/4	1.00	0.90

SAE 100R7/100R8 Male 37° Swivel Connector

AH56120

Hose to Swivel
Connects hose to female AN/SAE 37° Flare

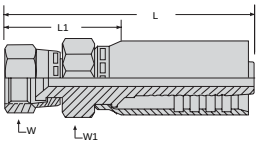


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W Hex
AH56120-4-4	7/16-20	1/4	2.47	0.97	5/8	5/8
AH56120-6-6	9/16-18	3/8	2.80	1.05	3/4	3/4
AH56120-8-8	3/4-16	1/2	3.18	1.24	15/16	3/4
AH56120-10-10	7/8-14	1/2	3.29	1.35	1-1/16	7/8
AH56120-12-12	1-1/16-12	3/4	3.68	1.56	1-1/4	1-1/8
AH56120-16-16	1-5/16-12	1	4.37	1.75	1-1/2	1-3/8

SAE 100R7/100R8 Female 37° Swivel Connector

AH56150

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex
AH56150-4-4	7/16-20	1/4	2.52	1.02	5/8	5/8
AH56150-6-6	9/16-18	3/8	2.87	1.12	3/4	3/4
AH56150-8-8	3/4-16	1/2	3.21	1.27	15/16	3/4
AH56150-10-10	7/8-14	1/2	3.21	1.27	1-1/16	7/8
AH56150-12-12	1-1/16-12	3/4	3.49	1.37	1-1/4	1-1/8
AH56150-16-16	1-5/16-12	1	4.05	1.43	1-1/2	1-3/8

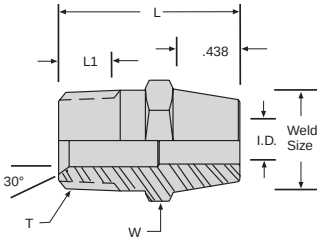
Swivel nut may be secured by either pinning or crimping to fitting body

Butt Weld Male Pipe Connector

BHC

Hose to Male Pipe
Connects pipe or metal hose to female NPT thread

SSP Part Number	T Pipe Thread	Weld Size	L	L1	I.D.	W Hex
1/8BHC1/8	1/8 - 27	1/8	1.03	0.39	0.19	7/16
1/4BHC1/4	1/4 - 18	1/4	1.19	0.50	0.25	9/16
3/8BHC3/8	3/8 - 18	3/8	1.25	0.57	0.38	11/16
1/2BHC1/2	1/2 - 14	1/2	1.44	0.69	0.50	7/8
3/4BHC3/4	3/4 - 14	3/4	1.50	0.76	0.75	1-1/16
1BHC1	1 - 11-1/2	1	1.69	0.88	1.00	1-5/16
1-1/4BHC1-1/4	1-1/4 - 11-1/2	1-1/4	1.94	0.98	1.25	1- 3/4
1-1/2BHC1-1/2	1-1/2 - 11-1/2	1-1/2	2.13	1.01	1.50	2
2BHC2	2 - 11-1/2	2	2.19	1.04	2.00	2-1/2



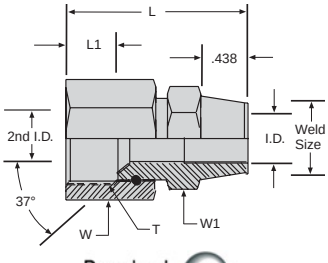
Download CAD Drawing

Butt Weld Female 37° Swivel Connector

BHJS

Hose to Swivel
Connects pipe or metal hose to male AN/SAE 37° Flare

SSP Part Number	T Thread	Weld Size	L	L1	I.D.	2nd I.D.	W Hex	W1 Hex
1/8BHJS2	5/16 - 24	1/8	1.35	0.32	0.19	0.06	7/16	7/16
1/4BHJS4	7/16 - 20	1/4	1.41	0.35	0.25	0.17	9/16	9/16
3/8BHJS6	9/16 - 18	3/8	1.55	0.38	0.38	0.30	11/16	11/16
1/2BHJS8	3/4 - 16	1/2	1.68	0.43	0.50	0.39	7/8	7/8
1/2BHJS10	7/8 - 14	1/2	1.75	0.51	0.50	0.48	1	7/8
3/4BHJS12	1-1/16 - 12	3/4	1.83	0.57	0.75	0.61	1-1/4	1-1/16
1BHJS16	1-5/16 - 12	1	1.98	0.60	1.00	0.84	1-1/2	1-5/16
1-1/4BHJS20	1-5/8 - 12	1-1/4	2.25	0.63	1.25	1.08	2	1-3/4
1-1/2BHJS24	1-7/8 - 12	1-1/2	2.51	0.74	1.50	1.31	2-1/4	2
2BHJS32	2-1/2 - 12	2	2.93	0.94	2.00	1.78	2-7/8	2-1/2



Download CAD Drawing

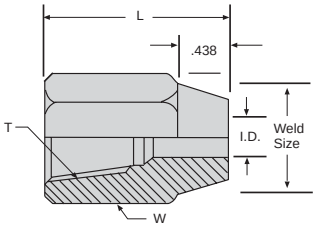
Swivel nut may be secured by either pinning or crimping to fitting body

Butt Weld Female Pipe Connector

BHFC

Hose to Female Pipe
Connects pipe or metal hose to male NPT thread

SSP Part Number	Weld Size	T Pipe Thread	L	I.D.	W Hex
1/4BHFC1/4	1/4	1/4 - 18	1.25	0.25	3/4
1/2BHFC1/2	1/2	1/2 - 14	1.63	0.50	1-1/8



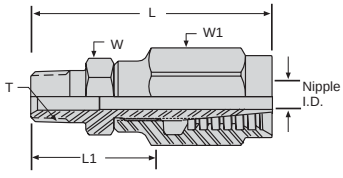
Download CAD Drawing

Field Attachable

SAE 100R1 AT Male Pipe Connector

AH40220

Hose to Male Pipe
Connects hose to female NPT thread

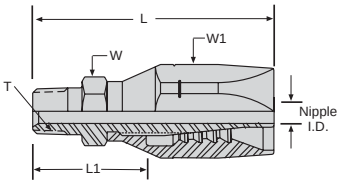


SSP Part Number	Hose I.D.	T Pipe Thread	L	L1	W Hex	W1 Hex	Nipple I.D.
AH40220-4-4	1/4	1/4 - 18	2.36	1.52	9/16	11/16	0.17
AH40220-6-6	3/8	3/8 - 18	2.60	1.45	3/4	7/8	0.27
AH40220-8-8	1/2	1/2 - 14	3.02	1.69	7/8	1	0.39
AH40220-12-12	3/4	3/4 - 14	3.23	1.75	1-1/8	1-3/8	0.61
AH40220-16-16	1	1 - 11-1/2	3.61	2.07	1-3/8	1-5/8	0.81

SAE 100R2 A Male Pipe Connector

AH40720

Hose to Male Pipe
Connects hose to female NPT thread

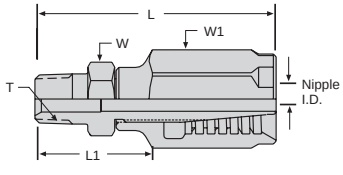


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH40720-4-4	1/4 - 18	1/4	2.50	1.27	9/16	13/16	0.17
AH40720-6-6	3/8 - 18	3/8	2.75	1.28	11/16	1	0.31
AH40720-8-8	1/2 - 14	1/2	3.09	1.58	7/8	1-1/8	0.39
AH40720-12-12	3/4 - 14	3/4	3.61	1.74	1	1-1/2	0.61
AH40720-16-16	1 - 11-1/2	1	4.37	2.36	1-3/8	1-3/4	0.82

SAE 100R2 AT Male Pipe Connector

AH30020

Hose to Male Pipe
Connects hose to female NPT thread

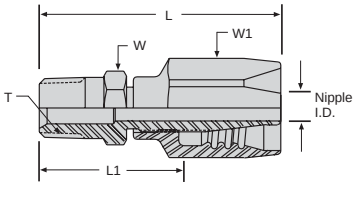


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH30020-4-4	1/4 - 18	1/4	2.38	1.41	9/16	3/4	0.17
AH30020-6-6	3/8 - 18	3/8	2.60	1.44	3/4	15/16	0.27
AH30020-8-8	1/2 - 14	1/2	3.11	1.77	7/8	1-1/16	0.39
AH30020-12-12	3/4 - 14	3/4	3.20	1.77	1-1/8	1-3/8	0.61
AH30020-16-16	1 - 11-1/2	1	3.73	2.02	1-3/8	1-3/4	0.81
AH30020-20-20	1-1/4 - 11-1/2	1-1/4	4.59	2.13	1-3/4	2-1/4	1.06
AH30020-24-24	1-1/2 - 11-1/2	1-1/2	4.81	2.60	2	2-1/2	1.28
AH30020-32-32	2 - 11-1/2	2	5.75	3.25	2-1/2	3	1.74

SAE 100R5 Male Pipe Connector

AH20020

Hose to Male Pipe
Connects hose to female NPT thread



SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH20020-4-4	1/4 - 18	1/4	1.93	1.15	9/16	5/8	0.13
AH20020-6-6	3/8 - 18	3/8	2.20	1.28	3/4	13/16	0.23
AH20020-8-10	1/2 - 14	5/8	2.88	1.66	7/8	1-1/8	0.45
AH20020-12-12	3/4 - 14	3/4	3.25	1.75	1-1/16	1-1/4	0.55
AH20020-16-16	1 - 11-1/2	1	2.99	1.80	1-3/8	1-7/16	0.82
AH20020-20-20	1-1/4 - 11-1/2	1-1/4	3.24	1.96	1-3/4	1-3/4	1.05
AH20020-24-24	1-1/2 - 11-1/2	1-1/2	3.49	2.12	2	2	1.28
AH20020-32-32	2 - 11-1/2	2	4.05	2.21	2-1/2	2-1/2	1.75

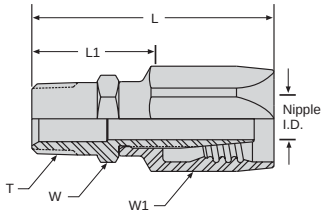
All Hydraulic Hose Fittings are 316SS. Many configurations also stocked in Monel.

Field Attachable

SAE 100R5 (mandrel) Male Pipe Connector

AH20220

Hose to Male Pipe
Connects hose to female NPT thread

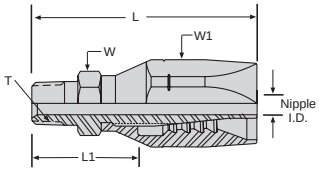


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH20220-4-4	1/4 - 18	1/4	1.86	1.11	9/16	5/8	0.13
AH20220-6-6	3/8 - 18	3/8	2.20	1.27	3/4	13/16	0.23
AH20220-8-10	1/2 - 14	5/8	2.88	1.66	7/8	1-1/8	0.45
AH20220-12-12	3/4 - 14	3/4	3.24	1.67	1-1/16	1-1/4	0.55

SAE 100R12 A Male Pipe Connector

AH47720

Hose to Male Pipe
Connects hose to female NPT thread

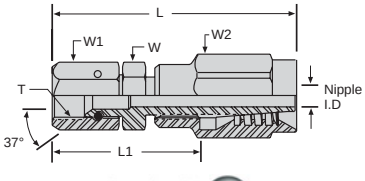


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH47720-6-6	3/8 - 18	3/8	3.07	1.45	11/16	1	0.30
AH47720-8-8	1/2 - 14	1/2	3.09	1.58	7/8	1-1/8	0.39
AH47720-12-12	3/4 - 14	3/4	3.61	1.74	7/8	1-1/8	0.61
AH47720-16-16	1 - 11-1/2	1	4.40	2.35	1-3/8	1-3/4	0.82

SAE 100R1 AT Female 37° Swivel Connector

AH40250

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH40250-4-4	1/4	7/16 - 20	1/4	2.44	1.53	9/16	9/16	11/16	0.17
AH40250-6-4	3/8	9/16 - 18	1/4	2.52	1.62	11/16	11/16	11/16	0.17
AH40250-6-6	3/8	9/16 - 18	3/8	2.75	1.60	11/16	11/16	7/8	0.26
AH40250-8-6	1/2	3/4 - 16	3/8	2.87	1.72	7/8	7/8	7/8	0.26
AH40250-8-8	1/2	3/4 - 16	1/2	3.10	1.77	7/8	7/8	1	0.39
AH40250-10-8	5/8	7/8 - 14	1/2	3.20	1.88	1	1	1	0.39
AH40250-10-10	5/8	7/8 - 14	5/8	3.50	2.07	1	1	1-1/8	0.48
AH40250-10-12	5/8	7/8 - 14	3/4	3.43	1.95	1	1	1-3/8	0.61
AH40250-12-8	3/4	3/4 - 16	1/2	3.40	2.06	1-1/4	1-1/4	1	0.39
AH40250-12-12	3/4	1-1/16 - 12	3/4	3.54	2.06	1-1/4	1-1/4	1-3/8	0.61
AH40250-16-16	1	1-5/16 - 12	1	3.80	2.20	1-1/2	1-1/2	1-5/8	0.81

Swivel nut may be secured by either pinning or crimping to fitting body

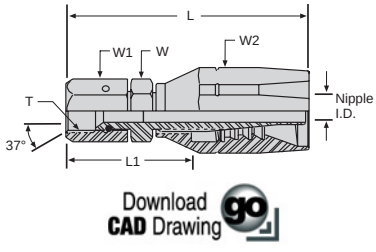
All Hydraulic Hose Fittings are 316SS. Many configurations also stocked in Monel.

Field Attachable

SAE 100R2 A Female 37° Swivel Connector

AH40750

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

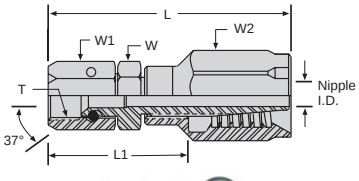
SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH40750-4-4	1/4	7/16 - 20	1/4	2.64	1.41	9/16	9/16	13/16	0.17
AH40750-6-6	3/8	9/16 - 18	3/8	2.98	1.51	11/16	11/16	1	0.31
AH40750-8-6	1/2	3/4 - 16	3/8	3.10	1.63	7/8	7/8	1	0.31
AH40750-8-8	1/2	3/4 - 16	1/2	3.20	1.68	7/8	7/8	1-1/8	0.39
AH40750-10-8	5/8	7/8 - 14	1/2	3.31	1.80	1	1	1-1/8	0.39
AH40750-12-12	3/4	1-1/16 - 12	3/4	3.86	1.99	1-1/4	1-1/4	1-1/2	0.61
AH40750-16-16	1	1-5/16 - 12	1	4.48	2.43	1-1/2	1-1/2	1-3/4	0.82
AH40750-20-20	1-1/4	1-5/8 - 12	1-1/4	5.09	2.77	2	2	2-1/4	1.03
AH40750-24-24	1-1/2	1-7/8 - 12	1-1/2	5.16	2.93	2-1/4	2-1/4	2-1/2	1.28
AH40750-32-32	2	2-1/2 - 12	2	5.90	3.47	2-7/8	2-7/8	3	1.75

Swivel nut may be secured by either pinning or crimping to fitting body

SAE 100R2 AT Female 37° Swivel Connector

AH30050

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH30050-4-4	1/4	7/16 - 20	1/4	2.45	1.48	9/16	9/16	3/4	0.17
AH30050-6-4	3/8	9/16 - 18	1/4	2.54	1.57	11/16	11/16	3/4	0.17
AH30050-6-6	3/8	9/16 - 18	3/8	2.74	1.60	11/16	11/16	15/16	0.27
AH30050-8-6	1/2	3/4 - 16	3/8	2.85	1.71	7/8	7/8	15/16	0.27
AH30050-8-8	1/2	3/4 - 16	1/2	3.19	1.85	7/8	7/8	1-1/16	0.39
AH30050-10-8	5/8	7/8 - 14	1/2	3.30	1.96	1	1	1-1/16	0.39
AH30050-10-10	5/8	7/8 - 14	5/8	3.54	2.08	1	1	1-1/4	0.48
AH30050-12-12	3/4	1-1/16 - 12	3/4	3.50	2.07	1-1/4	1-1/4	1-3/8	0.61
AH30050-16-16	1	1- 5/16 - 12	1	3.94	2.22	1-1/2	1-1/2	1-3/4	0.81
AH30050-20-20	1-1/4	1- 5/8 - 12	1-1/4	4.96	2.50	2	2	2-1/4	1.06
AH30050-24-24	1-1/2	1-7/8 - 12	1-1/2	5.26	3.05	2-1/4	2-1/4	2-1/2	1.28
AH30050-32-32	2	2-1/2 - 12	2	6.42	3.91	2-7/8	2-7/8	3	1.74

Swivel nut may be secured by either pinning or crimping to fitting body

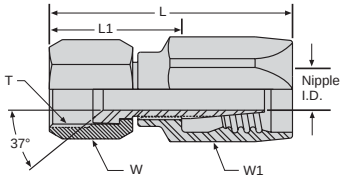
All Hydraulic Hose Fittings are 316SS. Many configurations also stocked in Monel.

Field Attachable

SSAE 100R5 (mandrel) Female 37° Swivel Connector

AH20250

Hose to Swivel
Connects hose to male AN/SAE 37° Flare

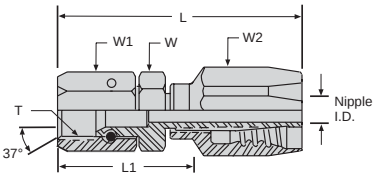


SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH20250-4-4	1/4	7/16 - 20	1/4	1.75	1.00	5/8	9/16	0.17
AH20250-6-6	3/8	9/16 - 18	3/8	2.05	1.15	13/16	11/16	0.29
AH20250-8-8	1/2	3/4 - 16	1/2	2.52	1.38	15/16	7/8	0.39
AH20250-10-10	5/8	7/8 - 14	5/8	2.80	1.51	1-1/8	1-1/8	0.49
AH20250-12-12	3/4	1-1/16 - 12	3/4	3.15	1.58	1-1/4	1-1/4	0.55
AH20250-16-16	1	1-5/16 - 12	1	2.82	1.54	1-7/16	1-1/2	0.81
AH20250-20-20	1-1/4	1-5/8 - 12	1-1/8	3.00	1.64	1-3/4	2	1.05
AH20250-24-24	1-1/2	1-7/8 - 12	1-3/8	3.28	1.83	1-15/16	2-1/4	1.28
AH20250-32-32	2	2-1/2 - 12	1-13/16	3.88	2.03	2-7/16	2-7/8	1.75

SAE 100R5 Female 37° Swivel Connector

AH20050

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

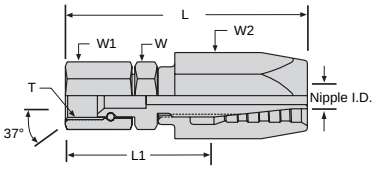
SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH20050-4-4	1/4	7/16 - 20	1/4	1.93	1.16	9/16	9/16	5/8	0.13
AH20050-6-6	3/8	9/16 - 18	3/8	2.33	1.43	11/16	11/16	13/16	0.23
AH20050-8-8	1/2	3/4 - 16	1/2	2.80	1.69	7/8	7/8	15/16	0.36
AH20050-10-10	5/8	7/8 - 14	5/8	3.10	1.88	1	1	1-1/8	0.45
AH20050-12-12	3/4	1-1/16 - 12	3/4	3.49	1.99	1-1/4	1-1/4	1-1/4	0.55
AH20050-16-16	1	1- 5/16 - 12	1	3.19	2.01	1-1/2	1-1/2	1-7/16	0.82
AH20050-20-20	1-1/4	1- 5/8 - 12	1-1/4	3.54	2.27	2	2	1-3/4	1.05
AH20050-24-24	1-1/2	1-7/8 - 12	1-1/2	3.93	2.56	2-1/4	2-1/4	2	1.28
AH20050-32-32	2	2-1/2 - 12	2	4.71	2.97	2-7/8	2-7/8	2-1/2	1.75

Swivel nut may be secured by either pinning or crimping to fitting body

SAE 100R7 Female 37° Swivel Connector

AH50150

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



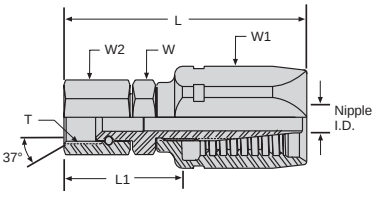
SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH50150-4-4	1/4	7/16 - 20	1/4	2.18	1.27	9/16	5/8	5/8	0.17
AH50150-6-6	3/8	9/16 - 18	3/8	2.77	1.51	3/4	7/8	7/8	0.26

Swivel nut may be secured by either pinning or crimping to fitting body

SAE 100R9 Type AT Female 37° Swivel Connector

AH30450

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH30450-8-8	1/2	3/4 - 16	1/2	3.24	1.73	7/8	1-1/8	7/8	0.39
AH30450-12-12	3/4	1-1/16 - 12	3/4	3.70	2.01	1-1/4	1-7/16	1-1/4	0.61
AH30450-16-16	1	1-5/16 - 12	1	4.00	2.09	1-1/2	1-7/8	1-1/2	0.81

Swivel nut may be secured by either pinning or crimping to fitting body

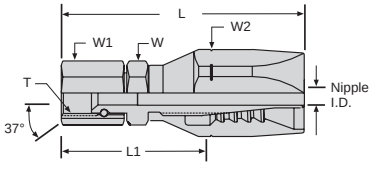
All Hydraulic Hose Fittings are 316SS. Many configurations also stocked in Monel.

Field Attachable

SAE 100R12 A Female 37° Swivel Connector

AH47750

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



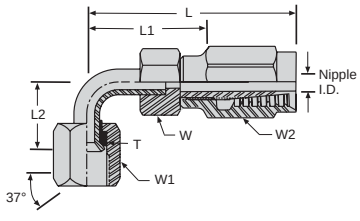
SSP Part Number	Hose I.D.	T Thread	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH47750-6-6	3/8	9/16 - 18	3.30	1.68	11/16	11/16	1	0.30
AH47750-10-8	1/2	7/8 - 14	3.31	1.80	1-1/4	7/8	1-1/8	0.39
AH47750-12-12	3/4	1-1/16 - 12	3.86	1.99	1	1-1/4	1-1/2	0.61
AH47750-16-16	1	1-5/16 - 12	4.48	2.43	2	2	2-1/4	0.82

Swivel nut may be secured by either pinning or crimping to fitting body

SAE 100R1 AT Female 37° Swivel Elbow

AH40251

Hose to Swivel
Connects hose to male AN/SAE 37° Flare

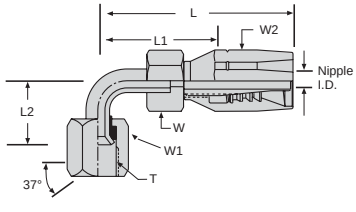


SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	L2	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH40251-4-4	1/4	7/16 - 20	1/4	2.56	1.66	0.68	7/16	9/16	11/16	0.17
AH40251-6-6	3/8	9/16 - 18	3/8	2.93	1.78	0.85	9/16	11/16	7/8	0.27
AH40251-8-8	1/2	3/4 - 16	1/2	3.22	1.90	1.09	11/16	7/8	1	0.39
AH40251-12-12	3/4	1-1/16 -12	3/4	3.91	2.43	1.82	15/16	1-1/4	1-3/8	0.61
AH40251-16-16	1	1-5/16 -12	1	4.35	2.81	2.14	1-1/4	1-1/2	1-5/8	0.81

SAE 100R2 A Female 37° Swivel Elbow

AH40751

Hose to Swivel
Connects hose to male AN/SAE 37° Flare

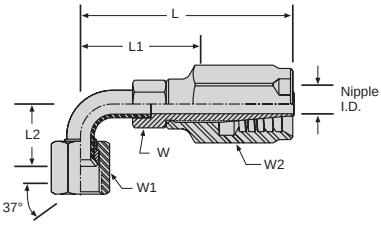


SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	L2	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH40751-4-4	1/4	7/16 - 20	1/4	2.40	0.56	0.68	9/16	9/16	13/16	0.17
AH40751-6-6	3/8	9/16 - 18	3/8	2.78	0.75	0.85	5/8	5/8	1	0.31
AH40751-8-8	1/2	3/4 - 16	1/2	3.02	0.87	1.09	7/8	7/8	1-1/8	0.39
AH40751-12-12	3/4	1-1/16 - 12	3/4	4.11	1.43	1.82	1-1/4	1-1/4	1-1/2	0.61
AH40751-16-16	1	1-5/16 - 12	1	4.84	1.57	2.14	1-1/2	1-1/2	1-3/4	0.82

SAE 100R2 AT Female 37° Swivel Elbow

AH30051

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	L2	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH30051-4-4	1/4	7/16 - 20	1/4	2.58	1.61	0.68	7/16	9/16	3/4	0.17
AH30051-6-6	3/8	9/16 - 18	3/8	2.91	1.77	0.85	9/16	11/16	15/16	0.27
AH30051-8-8	1/2	3/4 - 16	1/2	3.31	1.97	1.09	11/16	7/8	1-1/16	0.39
AH30051-10-10	5/8	7/8 - 14	5/8	3.63	2.17	1.23	7/8	1	1-1/4	0.48
AH30051-12-12	3/4	1-1/16 - 12	3/4	3.88	2.45	1.81	15/16	1-1/4	1-3/8	0.61
AH30051-16-16	1	1-5/16 - 12	1	4.47	2.76	2.14	1-1/4	1-1/2	1-3/4	0.81

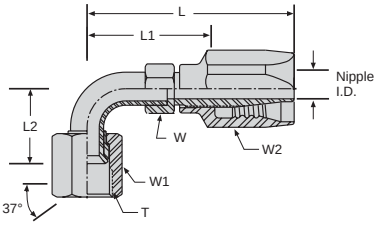
All Hydraulic Hose Fittings are 316SS. Many configurations also stocked in Monel.

Field Attachable

SAE 100R5 AT Female 37° Swivel Elbow

AH20051

Hose to Swivel
Connects hose to male AN/SAE 37° Flare

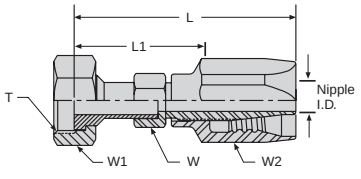


SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	L2	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH20051-4-4	1/4	7/16 - 20	3/16	1.97	1.19	0.68	3/8	9/16	5/8	0.31
AH20051-6-6	3/8	9/16 - 18	5/16	2.35	1.43	0.85	1/2	11/16	13/16	0.23
AH20051-8-8	1/2	3/4 - 16	13/32	2.88	1.79	1.09	5/8	7/8	15/16	0.36
AH20051-10-10	5/8	7/8 - 14	1/2	3.19	1.97	1.24	3/4	1	1-1/8	0.45
AH20051-12-12	3/4	1-1/16 - 12	5/8	3.86	2.36	1.82	7/8	1-1/4	1-1/4	0.55
AH20051-16-16	1	1-5/16 - 12	7/8	3.69	2.50	2.14	1-1/8	1-1/2	1-7/16	0.82

SAE 100R5 Female O-Ring Face Seal Swivel Connector

AH20017

Hose to Soft-Seal
Connects hose to male Soft-Seal, Nav-Sea



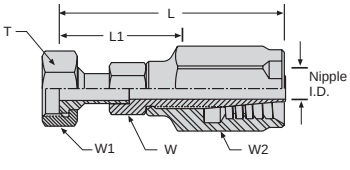
SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH20017-6-6	3/8	11/16 - 16	3/8	2.31	1.41	11/16	13/16	13/16	0.23
AH20017-8-8	1/2	13/16 - 16	1/2	2.91	1.76	7/8	15/16	15/16	0.36
AH20017-10-10	5/8	1 - 14	5/8	3.13	1.84	1	1-1/8	1-1/8	0.45
AH20017-12-12	3/4	1-1/4 - 12	3/4	3.55	1.98	1-1/4	1-3/8	1-1/4	0.55
AH20017-16-16	1	1-1/2 - 12	1	3.30	2.03	1-3/8	1-5/8	1-1/2	0.82

Swivel nut may be secured by either pinning or crimping to fitting body

SAE 100R2 AT Female O-Ring Face Seal Swivel Connector

AH30017

Hose to Soft-Seal
Connects hose to male Soft-Seal, Nav-Sea



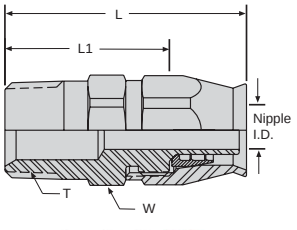
SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	W1 Hex	W2 Hex	Nipple I.D.
AH30017-6-6	3/8	11/16 - 16	3/8	2.83	1.62	9/16	13/16	15/16	0.27
AH30017-8-8	1/2	13/16 - 16	1/2	3.30	1.89	11/16	15/16	1-1/16	0.39
AH30017-10-10	5/8	1 - 14	5/8	3.56	2.04	13/16	1-1/8	1-1/4	0.48
AH30017-12-12	3/4	1-1/4 - 12	3/4	3.80	2.26	15/16	1-3/8	1-3/8	0.61
AH30017-16-16	1	1-1/2 - 12	1	4.08	2.26	1-1/4	1-5/8	1-3/4	0.81

Swivel nut may be secured by either pinning or crimping to fitting body

SAE 100R14 Male Pipe Connector

AH90020

Hose to Male Pipe
Connects hose to female NPT thread



Download CAD Drawing

SSP Part Number	T Pipe Thread	Nominal Hose O.D.	L	L1	W Hex	Nipple I.D.
AH90020-2-4	1/8 - 27	1/4	1.39	29/32	9/16	0.16
AH90020-4-4	1/4 - 18	1/4	1.58	1-1/16	9/16	0.16
AH90020-4-5	1/4 - 18	5/16	1.66	1-1/8	5/8	0.23
AH90020-4-6	1/4 - 18	3/8	1.66	1-1/8	11/16	0.28
AH90020-6-6	3/8 - 18	3/8	1.66	1-1/8	11/16	0.28
AH90020-6-8	3/8 - 18	1/2	1.77	1-5/32	7/8	0.38
AH90020-8-8	1/2 - 14	1/2	1.97	1-15/32	7/8	0.38
AH90020-8-10	1/2 - 14	5/8	2.13	1-7/16	1	0.47
AH90020-12-12	3/4 - 14	3/4	2.26	1-19/32	1-1/8	0.59
AH90020-16-16	1 - 11-1/2	1	2.48	1-27/32	1-3/8	0.83
AH90020-20-20	1-1/4 - 11-1/2	1-1/4	2.83	2-3/16	2	1.06

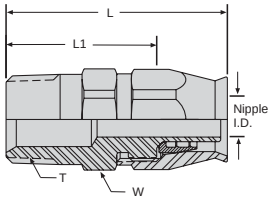
All Hydraulic Hose Fittings are 316SS. Many configurations also stocked in Monel.

Field Attachable

MIL-H-27267 (.040" Wall) Male Pipe Connector

AH92020

Hose to Male Pipe
Connects hose to female NPT thread



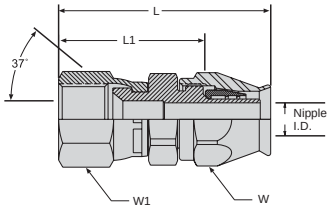
Download CAD Drawing

SSP Part Number	T Pipe Thread	Nominal Hose O.D.	L	L1	W Hex	Nipple I.D.
AH92020-2-4	1/8 - 27	1/4	1.39	29/32	9/16	0.16
AH92020-4-4	1/4 - 18	1/4	1.58	1-1/16	9/16	0.16
AH92020-4-5	1/4 - 18	5/16	1.66	1-1/8	5/8	0.23
AH92020-4-6	1/4 - 18	3/8	1.66	1-1/8	11/16	0.28
AH92020-6-6	3/8 - 18	3/8	1.66	1-1/8	11/16	0.28
AH92020-6-8	3/8 - 18	1/2	1.77	1-5/32	7/8	0.38
AH92020-8-8	1/2 - 14	1/2	1.97	1-15/32	7/8	0.38
AH92020-8-10	1/2 - 14	5/8	2.13	1-7/16	1	0.47
AH92020-12-12	3/4 - 14	3/4	2.26	1-19/32	1-1/8	0.59
AH92020-16-16	1 - 11-1/2	1	2.48	1-27/32	1-3/8	0.83
AH92020-20-20	1-1/4 - 11-1/2	1-1/4	2.83	2-3/16	2	1.06

SAE 100R14 Female 37° Swivel Connector

AH90050

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

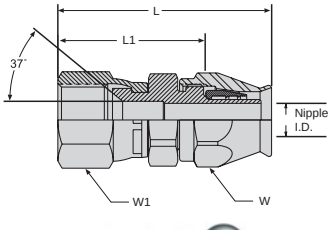
SSP Part Number	T Thread	Nominal Hose O.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH90050-4-4	7/16 - 20	1/4	1.58	1-1/8	9/16	9/16	0.16
AH90050-5-5	1/2 - 20	5/16	1.66	1-3/32	5/8	5/8	0.23
AH90050-6-6	9/16 - 18	3/8	1.74	1-1/4	11/16	11/16	0.26
AH90050-8-8	3/4 - 16	1/2	1.98	1-3/8	7/8	7/8	0.38
AH90050-10-10	7/8 - 14	5/8	2.22	1-9/16	1	1	0.47
AH90050-12-12	1-1/16 - 12	3/4	2.33	1-11/16	1-1/4	1-1/4	0.59
AH90050-16-16	1-5/16 - 12	1	2.52	1-15/16	1-3/8	1-1/2	0.83
AH90050-20-20	1-5/8 - 12	1-1/4	2.63	2-5/16	2	2	1.06

Swivel nut may be secured by either pinning or crimping to fitting body

MIL-H-27267 (.040" Wall) 37° Swivel Connector

AH92050

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

SSP Part Number	T Thread	Nominal Hose O.D.	L	L1	W Hex	W1 Hex	Nipple I.D.
AH92050-4-4	7/16-20	1/4	1.58	1-1/8	9/16	9/16	0.16
AH92050-5-5	1/2-20	5/16	1.66	1-3/32	5/8	5/8	0.23
AH92050-6-6	9/16-18	3/8	1.74	1-1/4	11/16	11/16	0.26
AH92050-8-8	3/4-16	1/2	1.98	1-3/8	7/8	7/8	0.38
AH92050-10-10	7/8-14	5/8	2.22	1-9/16	1	1	0.47
AH92050-12-12	1-1/16 - 12	3/4	2.33	1-11/16	1-1/4	1-1/4	0.59
AH92050-16-16	1-5/16 - 12	1	2.52	1-15/16	1-3/8	1-1/2	0.83
AH92050-20-20	1-5/8 - 12	1-1/4	2.63	2-5/16	2	2	1.06

Swivel nut may be secured by either pinning or crimping to fitting body

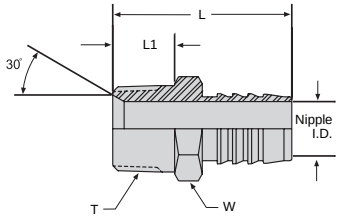
To order 303SS add suffix "-C" to SSP Part Number. To order Brass add suffix "-B" to SSP Part Number.

Field Attachable

SAE 100R4 Male Pipe Connector

H80820

Hose to Male Pipe
Connects hose to female NPT thread

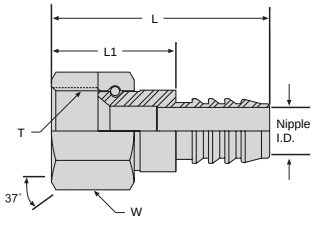


SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	W Hex	Nipple I.D.
H80820-12-12	3/4 - 14	3/4	2.25	1.12	1-1/4	0.81
H80820-16-16	1 - 11-1/2	1	2.75	1.37	1-3/8	0.83
H80820-20-20	1-1/4 - 11-1/2	1-1/4	3.05	1.47	1-3/4	1.07
H80820-24-24	1-1/2 - 11-1/2	1-1/2	3.24	1.50	2	1.57
H80820-32-32	2 - 11-1/2	2	3.50	1.83	2-5/8	1.75

SAE 100R4 Female 37° Swivel Connector

H80850

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



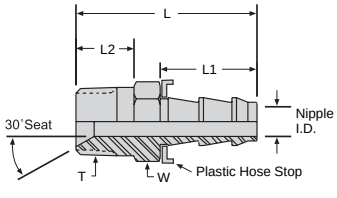
SSP Part Number	Tube O.D.	T Thread	Hose I.D.	L	L1	W Hex	Nipple I.D.
H80850-12-12	3/4	1-1/16 - 12	3/4	2.68	1.55	1-1/4	0.81
H80850-16-16	1	1-5/16 - 12	1	2.70	1.32	1-1/2	0.83
H80850-20-20	1-1/4	1-5/8 - 12	1-1/4	3.34	1.75	2	1.07
H80850-24-24	1-1/2	1-7/8 - 12	1-1/2	3.67	1.93	2-1/4	1.57
H80850-32-32	2	2-1/2 - 12	2	4.00	2.17	2-7/8	1.75

Swivel nut may be secured by either pinning or crimping to fitting body

Push-On Male Pipe Connector

H80220

Hose to Male Pipe
Connects hose to female NPT thread



Download CAD Drawing

SSP Part Number	T Pipe Thread	Hose I.D.	L	L1	L2	Nipple I.D.	W Hex
H80220-2-4	1/8 - 27	1/4	1.39	0.81	0.39	0.19	7/16
H80220-4-4	1/4 - 18	1/4	1.58	0.81	0.57	0.19	9/16
H80220-4-6	1/4 - 18	3/8	1.78	0.95	0.57	0.28	9/16
H80220-6-4	3/8 - 18	1/4	1.64	0.81	0.57	0.19	11/16
H80220-6-6	3/8 - 18	3/8	1.78	0.95	0.57	0.30	11/16
H80220-6-8	3/8 - 18	1/2	1.93	0.95	0.57	0.39	11/16
H80220-6-10	3/8 - 18	5/8	2.39	1.50	0.57	0.48	7/8
H80220-8-6	1/2 - 14	3/8	2.03	0.95	0.76	0.30	7/8
H80220-8-8	1/2 - 14	1/2	2.18	0.95	0.76	0.39	7/8
H80220-8-10	1/2 - 14	5/8	2.58	1.50	0.76	0.50	7/8
H80220-12-12	3/4 - 14	3/4	2.61	1.50	0.76	0.61	1-1/8
H80220-16-16	1 - 11-1/2	1	2.86	1.50	0.95	0.84	1-3/8

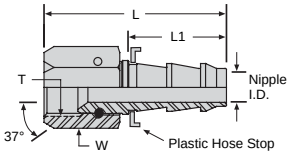
All Push-On Hose Fittings are 316SS.

Field Attachable

Push-On Female 37° Swivel Connector

H80250

Hose to Swivel
Connects hose to male AN/SAE 37° Flare



Download CAD Drawing

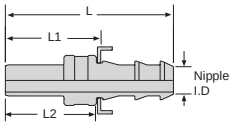
SSP Part Number	Tube O.D.	Hose I.D.	T Thread	L	L1	Nipple I.D.	W Hex
H80250-4-4	1/4	1/4	7/16 - 20	1.56	0.81	0.17	9/16
H80250-6-6	3/8	3/8	9/16 - 18	1.81	0.95	0.30	11/16
H80250-8-6	1/2	3/8	3/4 - 16	1.88	0.95	0.30	11/16
H80250-8-8	1/2	1/2	3/4 - 16	1.61	0.95	0.39	7/8
H80250-10-10	5/8	5/8	7/8 - 14	2.58	1.50	0.48	7/8
H80250-12-12	3/4	3/4	1-1/16 - 12	2.65	1.50	0.61	1-1/4
H80250-16-16	1	1	1-5/16 - 12	2.77	1.50	0.84	1-1/2

Swivel nut may be secured by either pinning or crimping to fitting body

Push-On Male Standpipe

H80293

Tube Stub Connectors/Adapters
Connects hose to fractional port or tube socket

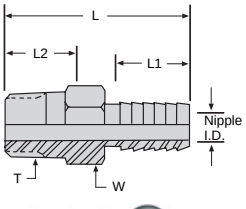


SSP Part Number	Hose I.D.	Tube Size	L	L1	L2	Nipple I.D.
H80293-4-4	1/4	1/4	1.89	1.13	1.02	0.17
H80293-6-6	3/8	3/8	2.23	1.36	1.22	0.28
H80293-8-8	1/2	1/2	2.16	1.10	0.97	0.38

Push-On Serration Male Pipe Connector

MHC

Hose to Male Pipe
Connects rigid hose or tubing to female NPT thread



Download CAD Drawing

SSP Part Number	T Pipe Thread	Hose ID	L	L1	L2	Nipple I.D.	W Hex	Barb O.D. Max.
1/8MHC1/8	1/8 - 27	1/8	1.08	0.42	0.39	0.09	7/16	0.14
1/8MHC1/4	1/8 - 27	1/4	1.36	0.70	0.39	0.16	7/16	0.25
1/4MHC1/8	1/4 - 8	1/8	1.23	0.42	0.57	0.09	9/16	0.14
1/4MHC1/4	1/4 - 18	1/4	1.53	0.70	0.57	0.16	9/16	0.25
1/4MHC3/8	1/4 - 18	3/8	1.70	0.89	0.57	0.25	9/16	0.37
1/4MHC1/2	1/4 - 18	1/2	1.70	0.89	0.57	0.28	9/16	0.50
3/8MHC1/4	3/8 - 18	1/4	1.58	0.70	0.57	0.16	11/16	0.25
3/8MHC3/8	3/8 - 18	3/8	1.77	0.89	0.57	0.25	11/16	0.37
3/8MHC1/2	3/8 - 18	1/2	1.77	0.89	0.57	0.38	11/16	0.50
1/2MHC1/4	1/2 - 14	1/4	1.76	0.70	0.76	0.16	7/8	0.25
1/2MHC3/8	1/2 - 14	3/8	1.95	0.89	0.76	0.25	7/8	0.37
1/2MHC1/2	1/2 - 14	1/2	1.95	0.89	0.76	0.38	7/8	0.50
1/2MHC5/8	1/2 - 14	5/8	1.95	0.89	0.76	0.50	7/8	0.62
1/2MHC3/4	1/2 - 14	3/4	1.95	0.89	0.76	0.53	7/8	0.75
3/4MHC1/2	3/4 - 14	1/2	2.02	0.89	0.76	0.38	1-1/16	0.50
3/4MHC3/4	3/4 - 14	3/4	2.02	0.89	0.76	0.63	1-1/16	0.75
3/4MHC1	3/4 - 14	1	2.02	0.89	0.76	0.72	1-1/16	1.00
1MHC3/4	1 - 11-1/2	3/4	2.25	0.89	0.95	0.63	1- 3/8	0.75
1MHC1	1 - 11-1/2	1	2.25	0.89	0.95	0.78	1- 3/8	1.00

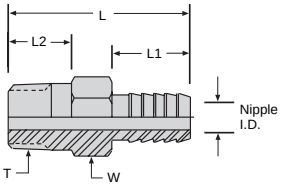
All Push-On Hose Fittings are 316SS.

Field Attachable

Push-On Barb Male Pipe Connector

M2HC

Hose to Male Pipe
Connects flexible tubing to female NPT thread



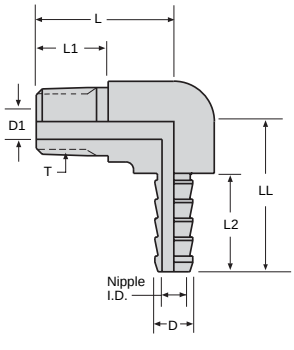
Download CAD Drawing

SSP Part Number	T Pipe Thread	Hose I.D.	Barb O.D. Max.	L	L1	L2	Nipple I.D.	W Hex
1/8M2HC1/8	1/8 - 27	1/8	0.16	1.00	0.41	0.39	0.07	7/16
1/8M2HC1/4	1/8 - 27	1/4	0.30	1.41	0.78	0.39	0.18	7/16
1/4M2HC1/8	1/4 - 18	1/8	0.16	1.22	0.41	0.57	0.07	9/16
1/4M2HC1/4	1/4 - 18	1/4	0.30	1.59	0.78	0.57	0.18	9/16
1/4M2HC3/8	1/4 - 18	3/8	0.45	1.71	0.88	0.57	0.28	9/16
1/4M2HC1/2	1/4 - 18	1/2	0.60	1.82	0.94	0.57	0.28	5/8
3/8M2HC1/4	3/8 - 18	1/4	0.30	1.62	0.78	0.57	0.18	11/16
3/8M2HC3/8	3/8 - 18	3/8	0.45	1.72	0.88	0.57	0.29	11/16
3/8M2HC1/2	3/8 - 18	1/2	0.60	1.81	0.94	0.57	0.37	11/16
1/2M2HC1/4	1/2 - 14	1/4	0.30	1.84	0.78	0.76	0.18	7/8
1/2M2HC3/8	1/2 - 14	3/8	0.45	1.85	0.88	0.76	0.29	7/8
1/2M2HC1/2	1/2 - 14	1/2	0.60	2.00	0.94	0.76	0.37	7/8
1/2M2HC5/8	1/2 - 14	5/8	0.72	2.00	0.94	0.76	0.50	7/8
1/2M2HC3/4	1/2 - 14	3/4	0.90	2.09	1.03	0.76	0.53	1-1/16
3/4M2HC1/2	3/4 - 14	1/2	0.60	2.04	0.94	0.76	0.37	1-1/16
3/4M2HC3/4	3/4 - 14	3/4	0.90	2.13	1.03	0.76	0.62	1-1/16
3/4M2HC1	3/4 - 14	1	1.17	2.31	1.13	0.76	0.62	1-3/16
1M2HC3/4	1 - 11-1/2	3/4	0.90	2.40	1.03	0.95	0.62	1-3/8
1M2HC1	1 - 11-1/2	1	1.17	2.50	1.13	0.95	0.78	1-3/8

Push-On Male Pipe Connector

M2HME

Hose to Male Pipe
Connects flexible tubing to female NPT thread



SSP Part Number	T Pipe Thread	Hose I.D.	D	D1	L	L1	L2	LL	Nipple I.D.
2M2HME4	1/8 -27	1/4	0.30	0.19	0.78	0.39	0.78	1.13	0.19
4M2HME4	1/4-18	1/4	0.30	0.28	1.09	0.57	0.78	1.19	0.19
4M2HME6	1/4-18	3/8	0.45	0.28	1.09	0.57	0.88	1.31	0.30
6M2HME6	3/8-18	3/8	0.45	0.41	1.28	0.57	0.88	1.46	0.30
6M2HME8	3/8-18	1/2	0.60	0.41	1.28	0.57	0.94	1.52	0.38
8M2HME6	1/2-14	3/8	0.45	0.53	1.47	0.76	0.88	1.46	0.30
8M2HME8	1/2-14	1/2	0.60	0.53	1.47	0.76	0.94	1.52	0.38

All Push-On Hose Fittings are 316SS.

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Pipe Fittings

Section Overview

Pipe Fittings and Adapters

Pipe Fittings & Adapters have two primary functions. They can either be used for sealing fluid within a hydraulic system, and/or they can be used for mechanically joining components.

In order to understand how Pipe Fittings & Adapters perform in these two roles, you should have a basic understanding of how they make a seal. Pipe Fittings & Adapters seal in one of four ways:

- Generating torque which seals tapered male and female threads together, or
- Compressing an o-ring between machined surfaces on the components being joined or sealed, or
- Seating a 30º angle on a female gland to a seat on a mating male tapered thread, or
- Using heat to permanently weld or braze the hydraulic system components together.

Tapered Pipe Fittings rely on the stress generated by forcing the tapered ends of the male half of the fitting into the female half of the component or port.

Straight Thread Adapters seat an o-ring on the shoulder of the male half of the connector against a metal sealing surface on the female port

Pipe Swivels connect a 30º cone inside a straight pipe thread female swivel to a 30° tapered seat on the end of some male pipe thread fittings.

Weld & Braze Adapters seal after heat and a filler material is used to permanently bond tubing or pipe to an adapter. Sealing occurs after butting the two parts together (butt welding), or inserting pipe or tube into a socket in the adapter (socket welding or brazing).

Koncentrik Unions join pipe or tubing. Metal-to-metal contact between mating taper angles in the union is reinforced by a fully confined Teflon seal to form a leak-proof joint.

Pipe Fittings & Adapters					
Feature	**Threaded – Tapered**	**Threaded – Straight**	**Pipe Swivel**	**Weld & Braze**	**Koncentrik®**
Pressures	Very high to 7,200 psi (static systems only)	High to 6,000 psi	High to 6,000 psi	Very high to 12,000 psi	Very high to 10,000 psi
Temperatures	Stainless: -425° to 1200°F Brass: -40° to 400°F Monel: -65° to 800°F	Nitrile/Buna: -30° to 250°F Viton: -15° to 400°F	Stainless: -425° to 1200°F	Stainless: -425° to 1200°F Monel: -65° to 800°F	PTFE/Teflon: -100° to 450°F
Vibration Resistance	Poor	Very Good	Medium	Excellent	Very Good
Materials	316/316L stainless steel M405 Monel CA377/CA360/CA345 brass	316/316L stainless	316/316L stainless	316L stainless M405 Monel	316/316L stainless M405 Monel
Size Available (nominal)	1/8" – 2"	#4 - #32	#4 - #32	1/8" – 2"	1/8" – 2" #4 - #32
Seal Reliability	Good in static systems Poor in dynamic systems Medium tolerance to minor thread imperfections Medium tolerance to assembly variation	Excellent in static systems; Very good in dynamic systems Medium tolerance to thread & taper angle imperfections	Good in static & dynamic systems. Low tolerance to damage along sealing angles. Medium tolerance to thread imperfections.	Excellent. Permanently brazed or welded joints are leak-free & high resistant to vibration.	Very good PTFE seal reinforced by metal-to-metal seal Medium tolerance to surface imperfections Medium tolerance to assembly variation like under-torquing
Assembly					
Thread & Port Preparation	Anaerobic sealant or thread tape	General lubricant applied to threads	General lubricant applied to threads	Fluxing & other prep. Steps required for weld	Varies. Connects to tubing, pipe & port connections.
Ease of Assembly	Medium L1 thread gauge & basic ass'y practices must be followed	Very high Intuitive make-up Simple process	Medium. Flats from Finger-Tight method utilized.	Difficult. Certified welding or brazing skills required.	Medium. Flats from Finger-Tight method utilized.
Ease of Maintenance	Limited breaks and remakes due to metal deformation of threads	Very good. Virtually unlimited breaks & remakes. O-ring replacement only	Good. Low metal deformation to create seal means moderately high repeatability	N/A. Permanently assembled joint cannot be maintained.	Very good. High number of breaks & remakes with Teflon snap-ring replacement.
Specification Conformance (design & thread)	J514, MIL-F-18866 ANSI B1.20.1, JIS B0203, BS 21, ISO 7/1	SAE 1926, ISO 11926 UN/UNF/UNEF: ANSI B1.1, ISO 263 BSPP: ISO 228/1, BS 2779, DIN 259, JIS B0202	SAE J514 ANSI B1.20.1	ANSI B31.3	ANSI B31.1.0 Power Piping ANSI B16.11 Forged Steel Fittings Socket Welded & Threaded

Tapered

Appearance

The male and female threads have a tapered flank and controlled truncation at the crest and root to assure metal to metal crest-root contact just as the male-female thread flanks make contact. Upon further tightening, the thread crests flatten out and allow the flanks to make full contact. This full thread profile contact give the tapered threads self-sealing ability. However, SSP recommends use of preapplied thread sealants because of variations in condition of mating threads, fitting and port materials or assembly procedures.

Suggested Applications

The standard bearer in industry over the years, Tapered Pipe Fittings are still widely used in static pressure, process piping & instrumentation systems. Tapered Pipe Fittings are cost-effective and widely available. Tapered Pipe Fittings are preferred in high temperature systems or when exposed to highly caustic media where a metal-only seal is required.

In most other applications, however, Tapered Pipe Fittings must be carefully considered given its inherent torque sensitivity. Over-tightening can distort the threads too much and create a leakage path. Repeated assembly and disassembly should be minimized. Tapered Pipe Fittings are not to be used for mechanically joining components in a system where load would be placed perpendicular to the plumbing line. This weight will further weaken the sealing joint.

Feature	Threaded – Tapered
Pressures	Very high to 7200 psi (static systems only)
Temperature	Stainless: -425° to 1200°F Brass:-40° to 400°F; Monel:-65° to 800°F
Vibration Resistance	Poor
Materials Available	316/316L stainless steel; M405 Monel; CA377/CA360/CA345 Brass
Size Available (nominal)	1/8" – 2"
Seal Reliability	Good in static systems Poor in dynamic systems Medium tolerance to minor thread imperfections Medium tolerance to assembly variation
Assembly	
Thread & Port Preparation	Anaerobic sealant or thread tape
Ease of Assembly	Medium L1 thread gauge & basic ass'y practices must be followed
Ease of Maintenance	Limited breaks and remakes due to metal deformation of threads
Specification Conformance (design & thread)	J514, MIL-F-18866; ANSI B1.20.1, JIS B0203; BS 21, ISO 7/1

Straight

Appearance

An o-ring on the shoulder of the male half of the connector seats against a metal sealing surface on the female port. Sealing is achieved and maintained by o-ring compression resulting from the clamping force generated by the tightening action. The straight threads do not seal; they provide the resistance (holding power) for service pressure.

Straight thread adapters fall into two general groups: adjustable and non-adjustable. Adjustable fittings, such as elbows and tees, allow the user to orient the shape in the direction desired before tightening to assemble. A non-adjustable fitting, such as a plug or connector simply screw into a port and no adjustment is necessary.

Suggested Applications

Fittings that use o-rings for leak-tight connections continue to gain popularity in new hydraulic system design. The rubber-on-metal seating does not distort any metal parts and does provide a tangible "feel" when the connection is tight. This method of sealing also allows virtually unlimited disassemblies and reassemblies, though the o-ring should always be replaced as a precaution. When using o-rings, be certain that the compound used is compatible with system and environmental media.

Feature	Threaded – Straight
Pressures	High to 6,000 psi
Temperatures	Nitrile/Buna: -30° to 250°F Viton: -15° to 400°F
Vibration Resistance	Very Good
Materials	316/316L stainless
Size Available (nominal)	#4 - #32
Seal Reliability	Excellent in static systems; Very good in dynamic systems Medium tolerance to thread & taper angle imperfections
Assembly	
Thread & Port Preparation	General lubricant applied to threads
Ease of Assembly	Very high Intuitive make-up Simple process
Ease of Maintenance	Very good. Virtually unlimited breaks & remakes. O-ring replacement only
Specification Conformance (stud end design & threads)	SAE 1926, ISO 11926 UN/UNF/UNEF: ANSI B1.1, ISO 263 BSPP: ISO 228/1, BS 2779, DIN 259, JIS B0202

Pipe Swivel (NPSM)

Appearance

Pipe Swivels are female adapters featuring a nut with a straight thread captured on a 30º cone tapered gland. A seal occurs between the taper in the male fitting and the 30º cone tapered gland. Pipe Swivels are for use with male tapered pipe thread hose fittings with a 30° seat. Pipe Swivels do not seal on the thread like most pipe threads, they seal on the nose of the swivel and the seat of the male tapered pipe thread. This creates a metal to metal seal.

Suggested Applications

Pipe Swivels are recommended for use as an adapter to hose assemblies with male pipe thread ends only. Other methods of connecting tubing, pipe, or joining components should be utilized in system design.

Feature	Pipe Swivel
Pressures	High to 6,000 psi
Temperature	Stainless: -425° to 1200°F
Vibration Resistance	Medium
Materials Available	316/316L stainless
Size Available (nominal)	#4 - #32
Seal Reliability	Good in static & dynamic systems. Low tolerance to damage along sealing angles. Medium tolerance to thread imperfections.
Assembly	
Thread & Port Preparation	General lubricant applied to threads
Ease of Assembly	Medium. Flats from Finger-Tight method utilized.
Ease of Maintenance	Good. Low metal deformation to create seal means moderately high repeatability
Specification Conformance (design & thread)	SAE J514 ANSI B1.20.1

Weld & Braze

Appearance

Weld & Braze Adapters join tubing or pipe to the adapter by butting the material to the fitting or by inserting the tubing or pipe into a socket in the fitting. SSP uses special reduced carbon content T316 material for all stainless Weld & Braze Adapters. When proper welding and brazing procedures are used, this material prevents the possibility of intergranular corrosion caused by carbide precipitation during assembly. SSP can provide additional information on this subject.

Suggested Applications

Weld & Braze Adapters are designed for joining tubing or pipe to other components carrying pressurized fluid or gas. They are not designed for mechanically joining components. The weld connection should not be subject to these weight loading stresses. Because of the permanent nature of the seal, weld & braze adapters are frequently used in hydraulic systems with extremely high operating pressures and/or vibration.

Feature	Weld & Braze
Pressures	Very high to 12,000 psi
Temperature	Stainless: -425° to 1200°F Monel: -65° to 800°F
Vibration Resistance	Excellent
Materials Available	316 Stainless with reduced carbon/316L M405 Monel
Size Available (nominal)	1/8" – 2"
Seal Reliability	Excellent. Permanently brazed or welded joints are leak-free & high resistant to vibration.
Assembly	
Thread & Port Preparation	Fluxing & other prep. Steps required for weld
Ease of Assembly	Difficult. Certified welding or brazing skills required.
Ease of Maintenance	N/A. Permanently assembled joint cannot be maintained.
Specification Conformance	ANSI B31.1, B31.7

Koncentrik® Unions

Appearance

Koncentrik Unions join pipe or tubing. Metal-to-metal contact between mating taper angles in the union is reinforced by a fully confined Teflon seal to form a leak-proof joint.

The Koncentrik Union is a four-piece assembly consisting of a threaded piece, tailpiece, union nut, and Teflon seal. The Teflon seal is preinstalled in a precision-machined groove in the male cone shaped tailpiece prior to shipment. The Teflon seal cushions the metal-to-metal contact of the surfaces and prevents them from becoming galled or scratched. The unions can be taken apart and resealed many times with no damage to the union or loss of sealing effectiveness.

Koncentrik Unions are available with tube & pipe socket and butt weld, female pipe thread, and male o-ring boss port end connections.

Suggested Applications

Koncentrik Unions have been used extensively in high pressure ground support missile systems, hydraulic control systems for turbine generators, and in nuclear and conventional power plant applications.

Koncentrik Unions offer all the advantages of flanges without the disadvantages. Like flanges, Koncentrik Unions can hold high pressures and can be repeatedly disassembled and resealed. But, unlike flanges, Koncentrik Unions are light in weight and quick to assemble. Only one nut holds the union together while flanges require several bolts and cumbersome rotational alignment.

Feature	Koncentrik® Unions
Pressures	Very high to 10,000 psi
Temperatures	PTFE/Teflon: -100° to 450°F
Vibration Resistance	Very Good
Materials Available	316/316L stainless M405 Monel
Size Available (nominal)	1/8" – 2" #4 - #32
Seal Reliability	Very good PTFE seal reinforced by metal-to-metal seal Medium tolerance to surface imperfections Medium tolerance to assembly variation like under-torquing
Assembly	
Thread & Port Preparation	Varies. Connects to tubing, pipe & port connections.
Ease of Assembly	Medium. Flats from Finger-Tight method utilized.
Ease of Maintenance	Very good. High number of breaks & remakes with Teflon snap-ring replacement.
Specification Conformance (design & thread)	ANSI B31.1.0 Power Piping ANSI B16.11 Forged Steel Fittings Socket Welded & Threaded

How to Order

Pipe Fittings

Threaded

Example: 6x3/8GCM-V

6

Fitting Size 1st end
(Chart #1)

3/8

Fitting Size 2nd end
(Chart #1)

GCM

Body Type
(Chart #2)

V

Special Modifiers
(Chart #3)

Chart #1 Fitting Size

Fitting Size	BSPP Thread Size	Pipe Thread	Straight Thread SAE UN/UNF-2A
2	-	1/8 - 27	5/16 - 24
3	-	-	3/8 - 24
4	1/4 x 19	1/4 - 18	7/16 - 20
5	-	-	1/2 - 20
6	3/8 x 19	3/8 - 18	9/16 - 18
8	1/2 x 14	1/2 - 14	3/4 - 16
10	5/8 x 14	-	7/8 - 14
12	3/4 x 14	3/4 - 14	1-1/16 - 12
14	-	-	1-3/16 - 12
16	1 x 11	1 - 11 1/2	1-5/16 - 12
20	1-1/4 x 11	1-1/4 - 11-1/2	1-5/8 - 12
24	-	1-1/2 - 11-1/4	1-7/8 - 12
32	-	2 - 11-1/2	2-1/2 - 12

Chart #2 Body Type

A-AC	Bulkhead Coupling
CGP	Straight Thread Hex Countersunk Plug
CP	Hex Countersunk Plug
DW	Bonded Washer
FF	Female Elbow
FFF	Female Tee
FFFF	Female Cross
FMF	Male Run Tee
FPM	Female SAE x Male Pipe Adapter
GCF	Male SAE x Female Pipe Adapter
GCFP	SAE Male to SAE Female Adapter
GCM	Male SAE x Male Pipe Adapter
GCU	Straight Thread Union
GEF	Male SAE to Female Pipe Elbow
GP	Straight Thread Plug
HC	Hex Coupling
HN	Hex Nipple
HP	Hex Head Plug
MF	Street Elbow
MF-45	45° Street Elbow
MFM	Female Run Tee
MM	Male Elbow
MMF	Female Branch Tee
MMM	Male Tee
PTR	Reducing Bushing
RA	Reducing Adapter Female Pipe x Male Pipe

Chart #3 Special Modifiers

BSPP	British Standard Pipe Parallel
BSPT	British Standard Pipe Tapered
M	Monel
V	Viton O-Ring

How to Order

Pipe Fittings

NPSM Swivels
Weld & Braze

Example: W4-4J-M

W	4	4	J	M
Family Designation (Chart #1)	**Tube Size Designators 1st End** (Chart #2)	**Tube Size Designators 2nd End** (Chart #2)	**Body Type** (Chart #3)	**Special Modifiers** (Chart #4)

Chart #1 Family Designation	
B	Tube Silbraze Port
BM	Male Tube Stub
BZ	Tube Deep Silbraze Port
PS	NPSM Swivel
SW	Tube Socket
W	Pipe
WM	Male Pipe Stub
WZ	Pipe Silbraze Port w/ Braze Ring

Chart #2 Tube Size	
4	1/4
6	3/8
8	1/2
10	5/8
12	3/4
16	1
20	1-1/4
24	1-1/2
32	2

Chart #3 Body Type	
A	Pipe Weld Adapter
C	Male Pipe Connector
E	Tube Socket Elbow
E-45	Tube Socket Elbow - 45º
FC	Female Pipe Connector
FE	Female Pipe Elbow
I	Tube Weld Adapter
J	Male SAE 37º Flared
ME	Male Pipe Elbow
ME-45	Male Pipe Elbow - 45º
T	Tube Socket Tee
U	Tube Socket Union
X	Tube Socket Cross

Chart #4 Special Modifiers	
M	Monel

How to Order

Pipe Fittings

Koncentrik® Unions

Example: 1/2KUT-M

1/2	KUT	M
Pipe Size (Chart #1)	**Configuration** (Chart #2)	**Special Modifiers** (Chart #3)

Chart #1

Pipe Size	Dash Size
1/4	4
3/8	6
1/2	8
3/4	12
1	16
1-1/4	20
1-1/2	24
2	32

Chart #2

Configuration	Description
KUT	Pipe Thread Union
KUS	Pipe Socket Weld
KUB	Pipe Butt Weld
KSWU	Tube Socket Weld
KSWGC	Tuve Socket to SAE Straight Thread
KSWGE	Tube Socket to SAE Straight Thread Elbow
KUN	Union Nut
TR	Teflon Snap Ring

Chart #3

Special Modifiers	
M	Monel
R	Tailpiece Only
T	Threaded Piece Only

- Use Pipe size callouts for KUT, KUS, KUB
- Use Dash size callouts for KSWU, KSWGC, KSWGE
- Dash size is the suffix on the KUN part number (example KUN-4)

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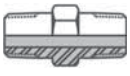
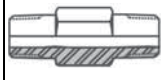
Visual Index

Threaded Pipe Fittings & Adapters

Nipple

Hex Nipple	Hex Long Nipple
	
HN 147	HNX 147

Coupling

Hex Coupling	Bulkhead Coupling
	
HC 152	A-AC 152

Cross

Female Cross

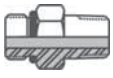
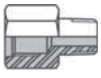
FFFF 156

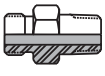
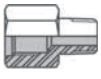
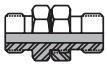
Component

Bonded Washer

DW 152

Adapter & Bushing

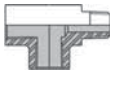
Reducing Adapter	Bushing	Male Straight Thread x Male Pipe	Female Straight Thread x Male Pipe	Male Straight Thread x Female Pipe	Male Straight Thread x Female Straight Thread
					
RA 148	PTR 148	GCM 149	FPM 149	GCF 149	GCFP 150

Straight Thread Union	BSP Straight Thread x Male Pipe Adapter	BSP Female Straight Thread x Male Pipe	BSP Straight Thread x Female Pipe Adapter	BSP Straight Thread Union
				
GCU 150	GCM-BSPP 151	FPM-BSPP 151	GCF-BSPP 151	GCU-BSPP 151

Elbow

Female Elbow	45° Female Elbow	Street Elbow	45° Street Elbow	Male Elbow	Female Pipe x Thread Elbow
					
FF 153	FF-45 153	MF 153	MF-45 153	MM 154	GEF 154

Tee

Female Tee	Male Run Tee	Male Branch Tee	Female Branch Tee	Female Run Tee	Male Tee
					
FFF 154	FMF 155	FFM 155	MMF 155	MFM 155	MMM 156

Cap & Plug

Hex Head Plug	Hex Countersunk Plug	Straight Thread Plug	Straight Thread Hex Countersunk Plug	Pipe Cap	BSP Straight Thread Plug
					
HP 156	CP 156	GP 157	CGP 157	PC 157	GP-BSPP 158

Pipe Swivels

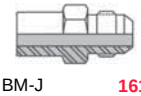
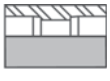
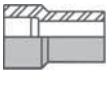
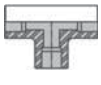
Swivel Adapter

Male Connector  PS-C 158	Female Connector  PS-FC 158	Male Elbow  PS-ME 159	Female Elbow  PS-FE 159
Straight Thread Connector  PS-GC 159	45° Male Elbow  PS-ME-45 160	Straight Thread Elbow  PS-GE 160	45° Straight Thread Elbow  PS-GE-45 160

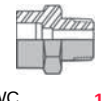
Our selection guide makes it easy to locate any fitting. Simply turn to the page designated in the lower right hand corner.

Weld & Braze Adapters

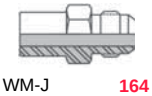
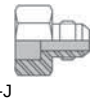
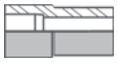
Tube to Tube Union

Weld/Braze Adapter for Tube Socket  B-J 161	Weld/Braze Adapter for Tube-Deeper Socket  BZ-J 161	Silbraze Adapter for Tube Socket  BZ-J-UT 161	Weld/Braze Adapter for Male Tube Stub  BM-J 161	Union  SWU 162
Reducing Insert  SWI 162	Elbow  SWE 162	45° Elbow  SWE-45 162	Tee  SWT 163	Cross  SWX 163

Tube to Pipe Thread

Socket Weld Male Connector  SWC 163	Socket Weld Female Connector  SWFC 163	Socket Weld Male Elbow  SWME 164	Socket Weld Female Elbow  SWFE 164

Tube to Weld

Weld/Braze Adapter for Male Pipe Stub  WM-J 164	Weld Adapter for Pipe  W-J 165	Silbraze Adapter for Pipe Socket  WZ-J 165	Male Adapter  SWA 166

Koncentrik® Unions

Union, Female Pipe

Female Pipe Union

KUT 166

Union, Pipe Socket

Pipe Socket Union

KUS 166

Union, Butt Weld

Pipe Butt Weld Union

KUB 167

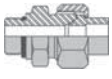
Union, Tube Socket

Tube Socket Union

KSWU 167

Union, O-Ring Boss

SAE Straight Thread Connector



AKSWGC 167

SAE Straight Thread Elbow

AKSWGE 168

Union, Tailpiece

Female Pipe Thread

KUT-R 168

Pipe Socket

KUS-R 168

Butt Weld

KUB-R 168

Tube Socket

KSWU-R 169

Union, Threaded Piece

Female Pipe Thread

KUT-T 169

Pipe Socket

KUS-T 169

Butt Weld

KUB-T 169

Tube Socket

KSWU-T 170

SAE Straight Thread Connector Body

KSWGC 170

SAE Straight Thread Elbow Body

KSWGE 170

Component

Teflon Snap Ring

TR 171

Union Nut

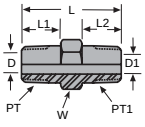
KUN 171

Hex Nipple

HN

Nipple

Connects female NPT thread



Download CAD Drawing

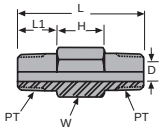
SSP Part Number	PT Pipe Thread	PT1 Pipe Thread	D Through Hole	D1 Through Hole	L	L1	L2	W Hex	SS Working Pressure	Brass Working Pressure
1/8HN	1/8 - 27	1/8 - 27	0.19	0.19	1.06	0.38	0.38	7/16	10050	5050
1/4HN	1/4 - 18	1/4 - 18	0.28	0.19	1.45	0.56	0.56	5/8	8050	4050
1/4X1/8HN	1/4 - 18	1/8 - 27	0.28	0.19	1.26	0.56	0.38	5/8	8050	4050
3/8HN	3/8 - 18	3/8 - 18	0.41	0.41	1.45	0.56	0.56	3/4	7850	3950
3/8X1/4HN	3/8 - 18	1/4 - 18	0.41	0.28	1.45	0.56	0.56	3/4	7850	3950
1/2HN	1/2 - 14	1/2 - 14	0.53	0.53	1.89	0.75	0.75	7/8	7750	3850
1/2X1/4HN	1/2 - 14	1/4 - 18	0.53	0.28	1.70	0.75	0.56	7/8	7750	3850
1/2X3/8HN	1/2 - 14	3/8 - 18	0.53	0.41	1.70	0.75	0.56	7/8	7750	3850
3/4HN	3/4 - 14	3/4 - 14	0.72	0.28	1.96	0.75	0.75	1-1/8	7350	3650
3/4X1/4HN	3/4 - 14	1/4 - 18	0.72	0.28	1.78	0.75	0.56	1-1/8	7350	3650
3/4X3/8HN	3/4 - 14	3/8 - 18	0.72	0.41	1.77	0.75	0.56	1-1/8	7350	3650
3/4X1/2HN	3/4 - 14	1/2 - 14	0.72	0.53	1.96	0.75	0.75	1-1/8	7350	3650
1HN	1 - 11-1/2	1 - 11-1/2	0.94	0.94	2.34	0.94	0.94	1-3/8	5350	2650
1X3/4HN	1 - 11-1/2	3/4 - 14	0.94	0.72	2.15	0.94	0.75	1-3/8	5350	2650
1X1/2HN	1 - 11-1/2	1/2 - 14	0.94	0.53	2.15	0.94	0.75	1-3/8	5350	2650
1-1/4HN	1-1/4 - 11-1/2	1-1/4 - 11-1/2	1.25	1.25	2.48	0.97	0.97	1-3/4	3400	
1-1/2HN	1-1/2 - 11-1/2	1-1/2 - 11-1/2	1.50	1.50	2.61	1.00	1.00	2	2800	
2HN	2 - 11-1/2	2 - 11-1/2	1.94	1.94	2.82	1.03	1.03	2-1/2	2450	

Hex Long Nipple

HNX

Nipple

Connects female NPT thread



Download CAD Drawing

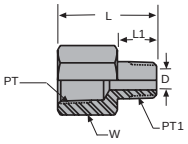
SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	H	W Hex	SS Working Pressure	Brass Working Pressure
1/8HNX1.5	1/8 - 27	0.19	1.5	0.38	0.74	7/16	10050	5050
1/8HNX2	1/8 - 27	0.19	2.0	0.38	1.24	7/16	10050	5050
1/8HNX2.5	1/8 - 27	0.19	2.5	0.38	1.74	7/16	10050	5050
1/8HNX3	1/8 - 27	0.19	3.0	0.38	2.24	7/16	10050	5050
1/4HNX1.5	1/4 - 18	0.28	1.5	0.56	0.38	5/8	8050	4050
1/4HNX2	1/4 - 18	0.28	2.0	0.56	0.88	5/8	8050	4050
1/4HNX2.5	1/4 - 18	0.28	2.5	0.56	1.38	5/8	8050	4050
1/4HNX3	1/4 - 18	0.28	3.0	0.56	1.88	5/8	8050	4050
1/4HNX4	1/4 - 18	0.28	4.0	0.56	2.88	5/8	8050	4050
3/8HNX2	3/8 - 18	0.41	2.0	0.56	0.88	3/4	7850	3950
3/8HNX3	3/8 - 18	0.41	3.0	0.56	1.88	3/4	7850	3950
3/8HNX3.5	3/8 - 18	0.41	3.5	0.56	2.38	3/4	7850	3950
1/2HNX2	1/2 - 14	0.53	2.0	0.75	0.50	7/8	7750	3850
1/2HNX2.5	1/2 - 14	0.53	2.5	0.75	1.00	7/8	7750	3850
1/2HNX3	1/2 - 14	0.53	3.0	0.75	1.50	7/8	7750	3850
1/2HNX4	1/2 - 14	0.53	4.0	0.75	2.50	7/8	7750	3850
1/2HNX6	1/2 - 14	0.53	6.0	0.75	4.50	7/8	7750	3850
3/4HNX3	3/4 - 14	0.72	3.0	0.75	1.50	1 - 1/8	7350	3650
1HNX3	1 - 11-1/2	0.94	3.0	0.94	1.12	1 - 3/8	5350	2650

Threaded Pipe Fittings & Adapters

Reducing Adapter

RA

Adapter & Bushing
Connects larger male NPT to smaller female NPT thread



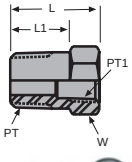
Download CAD Drawing

SSP Part Number	PT Pipe Thread	PT1 Pipe Thread	D Through Hole	L	L1	W Hex	SS Working Pressure	Brass Working Pressure
1/8X1/8RA	1/8 - 27	1/8 - 27	0.19	1.04	0.38	5/8	6550	3250
1/4X1/8RA	1/4 - 18	1/8 - 27	0.19	1.21	0.38	3/4	6650	3350
1/4X1/4RA	1/4 - 18	1/4 - 18	0.28	1.39	0.56	3/4	6650	3350
3/8X1/4RA	3/8 - 18	1/4 - 18	0.28	1.44	0.56	7/8	5350	2650
3/8X3/8RA	3/8 - 18	3/8 - 18	0.41	1.44	0.56	7/8	5350	2650
1/2X1/4RA	1/2 - 14	1/4 - 18	0.28	1.69	0.56	1 - 1/8	4950	2450
1/2X3/8RA	1/2 - 14	3/8 - 18	0.53	1.69	0.56	1 - 1/8	4950	2450
1/2X1/2RA	1/2 - 14	1/2 - 14	0.53	1.69	0.75	1 - 1/8	4950	2450
3/4X1/4RA	3/4 - 14	1/4 - 18	0.28	1.93	0.56	1 - 3/8	4650	2350
3/4X3/8RA	3/4 - 14	3/8 - 18	0.41	1.93	0.56	1 - 3/8	4650	2350
3/4X3/4RA	3/4 - 14	3/4 - 14	0.72	1.93	0.75	1 - 3/8	4650	2350
3/4X1/2RA	3/4 - 14	1/2 - 14	0.53	1.93	0.75	1 - 3/8	4650	2350
1X1/2RA	1 - 11-1/2	1/2 - 14	1.25	2.18	0.75	1 - 5/8	4450	2250
1X3/4RA	1 - 11-1/2	3/4 - 14	1.50	2.18	0.75	1 - 5/8	4450	2250
1X1RA	1 - 11-1/2	1 - 11-1/2	0.94	2.37	0.94	1 - 5/8	4450	2250
1-1/4X1RA	1-1/4 - 11-1/2	1 - 11-1/2	0.94	2.47	0.94	2	3450	

Bushing

PTR

Adapter & Bushing
Connects larger female NPT to smaller male NPT thread



Download CAD Drawing

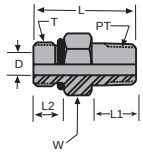
SSP Part Number	PT Pipe Thread	PT1 Pipe Thread	L	L1	W Hex	SS Working Pressure	Brass Working Pressure
1/4X1/8PTR	1/4 - 18	1/8 - 27	0.85	0.56	5/8	6550	3250
3/8X1/8PTR	3/8 - 18	1/8 - 27	0.85	0.56	3/4	6550	3250
3/8X1/4PTR	3/8 - 18	1/4 - 18	0.85	0.56	3/4	6550	3250
1/2X1/8PTR	1/2 - 14	1/8 - 27	1.09	0.75	7/8	6550	3250
1/2X1/4PTR	1/2 - 14	1/4 - 18	1.09	0.75	7/8	6650	3350
1/2X3/8PTR	1/2 - 14	3/8 - 18	1.10	0.75	7/8	5350	2650
3/4X1/4PTR	3/4 - 14	1/4 - 18	1.17	0.75	1-1/8	6650	3350
3/4X3/8PTR	3/4 - 14	3/8 - 18	1.17	0.75	1-1/8	5350	2650
3/4X1/2PTR	3/4 - 14	1/2 - 14	1.17	0.75	1-1/8	5350	2650
1X1/4PTR	1 - 11-1/2	1/4 - 18	1.36	0.94	1-3/8	5350	2650
1X3/8PTR	1 - 11-1/2	3/8 - 18	1.36	0.94	1-3/8	5350	2650
1X1/2PTR	1 - 11-1/2	1/2 - 14	1.36	0.94	1-3/8	4950	2450
1X3/4PTR	1 - 11-1/2	3/4 - 14	1.36	0.94	1-3/8	4650	2350
1-1/4X3/4PTR	1-1/4 - 11-1/2	3/4 - 14	1.47	0.97	1-3/4	6500	
1-1/4X1PTR	1-1/4 - 11-1/2	1 - 11-1/2	1.47	0.97	1-3/4	4300	
1-1/2X1PTR	1-1/2 - 11-1/2	1 - 11-1/2	1.57	1.00	2	6800	
1-1/2X1 1/4PTR	1-1/2 - 11-1/2	1-1/4 - 11-1/2	1.57	1.00	2	2500	
2X1-1/4PTR	2 - 11-1/2	1-1/4 - 11-1/2	1.75	1.00	2-1/2	6700	
2X1-1/2PTR	2 - 11-1/2	1-1/2 - 11-1/2	1.75	1.03	2-1/2	4200	

Threaded Pipe Fittings & Adapters

Male Straight Thread x Male Pipe

GCM

Adapter & Bushing
Connects female SAE/MS to female NPT thread



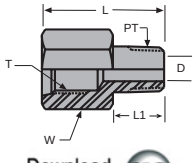
Download CAD Drawing

SSP Part Number	T Thread	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure
4X1/8GCM	7/16 - 20	1/8 - 27	0.19	1.07	0.38	0.30	9/16	6000
4X1/4GCM	7/16 - 20	1/4 - 18	0.20	1.24	0.56	0.36	9/16	6000
5X1/4GCM	1/2 - 20	1/4 - 18	0.28	1.24	0.56	0.36	5/8	6000
6X3/8GCM	9/16 - 18	3/8 - 18	0.30	1.30	0.56	0.39	11/16	6000
6X1/4GCM	9/16 - 18	1/4 - 18	0.28	1.30	0.56	0.36	11/16	6000
8X3/8GCM	3/4 - 16	3/8 - 18	0.41	1.37	0.56	0.39	7/8	6000
8X1/2GCM	3/4 - 16	1/2 - 14	0.42	1.56	0.75	0.44	7/8	6000
8X3/4GCM	3/4 - 16	3/4 - 14	0.42	1.59	0.75	0.59	1-1/8	4800
10X1/2GCM	7/8 - 14	1/2 - 14	0.50	1.69	0.75	0.44	1	5400
12X3/4GCM	1-1/16 - 12	3/4 - 14	0.66	1.75	0.75	0.59	1-1/4	4800
16X3/4GCM	1-5/16 - 12	3/4 - 14	0.72	1.89	0.75	0.59	1-1/2	3600
16X1GCM	1-5/16 - 12	1 - 11-1/2	0.84	1.90	0.94	0.59	1-1/2	3600
20X1-1/4GCM	1-5/8 - 12	1-1/4 - 11-1/2	1.09	2.17	0.97	0.59	1-7/8	3000
24X1-1/2GCM	1-7/8 - 12	1-1/2 - 11-1/2	1.34	2.28	1.00	0.59	2-1/8	2400

Female Straight Thread x Male Pipe

FPM

Adapter & Bushing
Connects male SAE/MS straight to female NPT thread



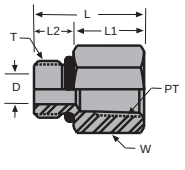
Download CAD Drawing

SSP Part Number	T Thread	PT Pipe Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
6X1/4FPM	9/16 - 18	1/4 - 18	0.28	1.36	0.56	13/16	5400
8X3/8FPM	3/4 - 16	3/8 - 18	0.41	1.49	0.56	1-1/16	5400
8X1/2FPM	3/4 - 16	1/2 - 14	0.53	1.58	0.75	1-1/16	5400

Male Straight Thread x Female Pipe

GCF

Adapter & Bushing
Connects female SAE/MS to male NPT thread



Download CAD Drawing

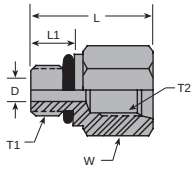
SSP Part Number	T Thread	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure
4X1/4GCF	7/16 - 20	1/4 - 18	0.20	1.30	0.86	0.36	3/4	7200
6X1/4GCF	9/16 - 18	1/4 - 18	0.30	1.09	0.70	0.39	3/4	7200
8X1/4GCF	3/4 - 16	1/4 - 18	0.39	1.22	0.78	0.44	7/8	7200
8X3/8GCF	3/4 - 16	3/8 - 18	0.42	1.22	0.78	0.44	7/8	7200
8X1/2GCF	3/4 - 16	1/2 - 14	0.42	1.44	1.00	0.44	1-1/8	6000
10X1/4GCF	7/8 - 14	1/4 - 18	0.44	0.81	0.31	0.50	1	6000
10X3/8GCF	7/8 - 14	3/8 - 18	0.48	1.25	0.75	0.50	1	6000
10X1/2GCF	7/8 - 14	1/2 - 14	0.50	1.53	1.03	0.50	1-1/8	6000
10X3/4GCF	7/8 - 14	3/4 - 14	0.50	1.63	1.63	0.50	1-3/8	4800
12X1/2GCF	1 1/16 - 12	1/2 - 14	0.66	1.34	0.75	0.59	1-1/4	6000
12X3/4GCF	1 1/16 - 12	3/4 - 14	0.66	1.66	1.07	0.59	1-3/8	4800
14X1/2GCF	1 3/16 - 12	1/2 - 14	0.70	1.00	0.60	0.59	1-3/8	4800
14X3/4GCF	1 3/16 - 12	3/4 - 14	0.72	1.63	1.04	0.59	1-3/8	4800
16X1/2GCF	1 5/16 - 12	1/2 - 14	0.70	1.00	0.41	0.59	1-1/2	4800
16X3/4GCF	1 5/16 - 12	3/4 - 14	0.84	1.50	0.91	0.59	1-1/2	4800
16X1GCF	1 5/16 - 12	1 - 11-1/2	0.88	1.88	1.29	0.59	1-5/8	3600
20X1GCF	1 5/8 - 12	1 - 11-1/2	1.16	1.00	0.41	0.59	1-7/8	3600
20X1-1/4GCF	1 5/8 - 12	1-1/4 - 11-1/2	1.08	1.94	1.35	0.59	2	3000
24X1GCF	1 7/8 - 12	1 - 11-1/2	1.16	1.00	0.41	0.59	2-1/8	3000
24X1-1/2GCF	1 7/8 - 12	1-1/2 - 11-1/2	1.31	2.00	1.41	0.59	2-1/4	2400

Threaded Pipe Fittings & Adapters

Male Straight Thread x Female Straight Thread

GCFP

Adapter & Bushing
Connects female SAE/MS to male SAE/MS thread



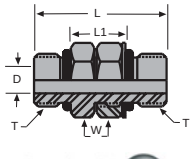
Download CAD Drawing

SSP Part Number	T1 Thread	T2 Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
4-4GCFP	7/16 - 20	7/16 - 20	0.20	1.06	0.36	11/16	5400
4-6GCFP	7/16 - 20	9/16 - 18	0.20	1.16	0.36	13/16	5400
6-4GCFP	9/16 - 18	7/16 - 20	0.30	0.97	0.39	11/16	5400
6-6GCFP	9/16 - 18	9/16 - 18	0.30	1.19	0.39	13/16	5400
6-8GCFP	9/16 - 18	3/4 - 16	0.30	1.38	0.39	1 - 1/16	4800
8-6GCFP	3/4 - 16	9/16 - 18	0.42	1.06	0.44	7/8	5400
8-8GCFP	3/4 - 16	3/4 - 16	0.42	1.47	0.44	1 - 1/16	4800
8-10GCFP	3/4 - 16	7/8 - 14	0.42	1.56	0.44	1 - 1/8	3600
10-6GCFP	7/8 - 14	9/16 - 18	0.50	0.81	0.50	1	6000
10-8GCFP	7/8 - 14	3/4 - 16	0.50	1.31	0.50	1	4800
10-12GCFP	7/8 - 14	1-1/16 - 12	0.50	1.69	0.50	1 - 3/8	4200
12-8GCFP	1-1/16 - 12	3/4 - 16	0.69	1.00	0.59	1 - 1/4	5400
12-10GCFP	1-1/16 - 12	7/8 - 14	0.66	1.44	0.59	1 - 1/4	3600
12-12GCFP	1-1/16 - 12	1-1/16 - 12	0.66	1.86	0.59	1 - 3/8	3600
12-16GCFP	1-1/16 - 12	1-5/16 - 12	0.66	1.88	0.59	1 - 5/8	2400
16-8GCFP	1-5/16 - 12	3/4 - 16	0.69	1.00	0.59	1 - 1/2	6000
16-12GCFP	1-5/16 - 12	1-1/16 - 12	0.88	1.75	0.59	1 - 1/2	4200
16-16GCFP	1-5/16 - 12	1-5/16 - 12	0.88	1.91	0.59	1 - 5/8	4200
20-6GCFP	1-5/8 - 12	9/16 - 18	0.50	1.20	0.59	1 - 7/8	3600
20-12GCFP	1-5/8 - 12	1-1/16 - 12	0.97	1.00	0.59	1 - 7/8	3600
20-16GCFP	1-5/8 - 12	1-5/16 - 12	1.22	1.00	0.59	1 - 7/8	2400
20-24GCFP	1-5/8 - 12	1-7/8 - 12	1.09	1.88	0.59	2 - 1/2	1800
24-16GCFP	1-7/8 - 12	1-5/16 - 12	1.22	1.00	0.59	2 - 1/8	2400
24-20GCFP	1-7/8 - 12	1-5/8 - 12	1.50	1.27	0.59	2 - 1/8	2400
32-24GCFP	2-1/2 - 12	1-7/8 - 12	1.79	1.00	0.59	2 - 3/4	1800

Straight Thread Union

GCU

Adapter & Bushing
Connects female SAE/MS thread



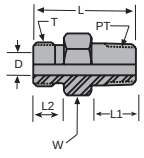
Download CAD Drawing

SSP Part Number	T Thread	D Through Hole	L	L1 After Ass'y	W Hex	SS Working Pressure
4GCU	7/16 - 20	0.20	1.22	0.50	9/16	6000
6GCU	9/16 - 18	0.30	1.41	0.59	11/16	6000
8GCU	3/4 - 16	0.42	1.56	0.63	7/8	6000
10GCU	7/8 - 14	0.48	1.81	0.75	1	5400
12GCU	1 1/16 - 12	0.66	2.13	0.89	1-1/4	4800
16GCU	1 5/16 - 12	0.88	2.13	0.89	1-1/2	3600
20GCU	1-5/8 - 12	1.08	2.13	0.89	1-7/8	3000
24GCU	1-7/8 - 12	1.34	2.13	0.89	2-1/8	2400
32GCU	2-1/2 - 12	1.81	2.13	0.89	2-3/4	1800

BSP Straight Thread x Male Pipe Adapter

GCM-BSPP

Adapter & Bushing
Connects female ISO parallel to female NPT thread



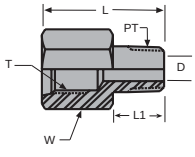
SSP Part Number	T Thread BSPP	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure
4x1/4GCM-BSPP	1/4 - 19	1/4 - 18	0.23	1.37	0.57	0.45	3/4	6000
6x3/8GCM-BSPP	3/8 - 19	3/8 - 18	0.30	1.37	0.57	0.45	7/8	6000
8x3/8GCM-BSPP	1/2- 14	3/8 - 18	0.48	1.55	0.57	0.56	1-1/8	6000
8x1/2GCM-BSPP	1/2 - 14	1/2 - 14	0.48	1.74	0.76	0.56	1-1/8	6000
12x3/4GCM-BSPP	3/4 - 14	3/4 - 14	0.66	1.89	0.76	0.56	1-3/8	4800
16x1GCM-BSPP	1 - 11	1 - 11-1/2	0.84	2.27	0.95	0.73	1-3/4	3600

DIN-ISO 228/1, JIS B0202, BS 2779. Requires bonded washer.

BSP Female Straight Thread x Male Pipe

FPM-BSPP

Adapter & Bushing
Connects male ISO parallel to female NPT thread



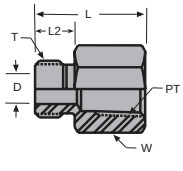
SSP Part Number	T Thread BSPP	PT Pipe Thread	D Through Hole	L	L1	W Hex	SS Working Pressure
4x1/4FPM-BSPP	1/4 - 19	1/4 - 18	0.28	1.42	0.57	3/4	7200
6x3/8FPM-BSPP	3/8 - 19	3/8 - 18	0.41	1.47	0.57	7/8	7200
8x1/2FPM-BSPP	1/2 - 14	1/2 - 14	0.53	1.89	0.76	1-1/8	6000
12x3/4FPM-BSPP	3/4 - 14	3/4 - 14	0.72	1.97	0.76	1-3/8	4800
16x1FPM-BSPP	1 - 11	1 - 11-1/2	0.94	2.20	0.95	1-5/8	3600

DIN-ISO 228/1, JIS B0202, BS 2779

BSP Straight Thread x Female Pipe Adapter

GCF-BSPP

Adapter & Bushing
Connects female ISO parallel to male NPT thread



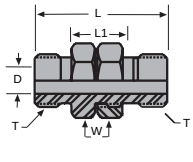
SSP Part Number	T Thread BSPP	PT Pipe Thread	D Through Hole	L	L2	W Hex	SS Working Pressure
4x1/4GCF-BSPP	1/4 - 19	1/4 - 18	0.23	1.33	0.45	3/4	6000
6x3/8GCF-BSPP	3/8 - 19	3/8 - 18	0.30	1.33	0.45	7/8	6000
8x3/8GCF-BSPP	1/2 - 14	3/8 - 18	0.48	1.41	0.56	1-1/8	6000
8x1/2GCF-BSPP	1/2 - 14	1/2 - 14	0.48	1.70	0.56	1-1/8	6000
12x3/4GCF-BSPP	3/4 - 14	3/4 - 14	0.66	1.82	0.56	1-3/8	4200
16x1GCF-BSPP	1 - 11	1 - 11-1/2	0.84	1.93	0.73	1-3/4	3600

DIN-ISO 228/1, JIS B0202, BS 2779. Requires bonded washer.

BSP Straight Thread Union

GCU-BSPP

Adapter & Bushing
Connects female ISO parallel thread



SSP Part Number	T Thread BSPP	D Through Hole	L	L1 After Ass'y	W Hex	SS Working Pressure
4 GCU-BSPP	1/4 - 19	0.23	1.54	0.63	3/4	6000
6 GCU-BSPP	3/8 - 19	0.30	1.69	0.78	7/8	6000
8 GCU-BSPP	1/2 - 14	0.48	2.22	1.07	1-1/8	6000
12 GCU-BSPP	3/4 - 14	0.66	2.28	1.13	1-3/8	4800
16 GCU-BSPP	1 - 11	0.84	2.68	1.11	1-3/4	3600

DIN-ISO 228/1, JIS B0202, BS 2779. Requires bonded washer.

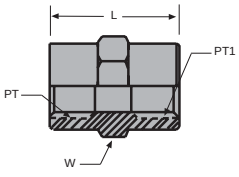
Threaded Pipe Fittings & Adapters

Hex Coupling

HC

Coupling

Connects male NPT thread



Download CAD Drawing

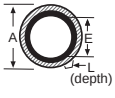
SSP Part Number	PT Pipe Thread	PT1 Pipe Thread	L	W Hex	SS Working Pressure	Monel Working Pressure	Brass Working Pressure
1/8HC	1/8 - 27	1/8 - 27	0.75	5/8	7200	6732	3900
1/4HC	1/4 - 18	1/4 - 18	1.13	3/4	7200	6732	3900
1/4X1/8HC	1/4 - 18	1/8 - 27	1.13	3/4	7200	6732	3900
3/8HC	3/8 - 18	3/8 - 18	1.13	7/8	7200	6732	3900
3/8X1/4HC	3/8 - 18	1/4 - 18	1.13	7/8	7200	6732	3900
1/2HC	1/2 - 14	1/2 - 14	1.50	1-1/8	6000	5610	3250
1/2X1/4HC	1/2 - 14	1/4 - 18	1.50	1-1/8	6000	5610	3250
1/2X3/8HC	1/2 - 14	3/8 - 18	1.50	1-1/8	6000	5610	3250
3/4HC	3/4 - 14	3/4 - 14	1.53	1-3/8	4800	4488	2600
3/4X1/2HC	3/4 - 14	1/2 - 14	1.88	1-3/8	4800	4488	2600
1HC	1 - 11-1/2	1 - 1-1/2	1.89	1-5/8	3600	3366	1950
1X1/2HC	1 - 11-1/2	1/2 - 14	1.89	1-5/8	3600	3366	1950
1X3/4HC	1 - 11-1/2	3/4 - 14	1.89	1-5/8	3600	3366	1950
1-1/4HC	1-1/4 - 11-1/2	1-1/4 - 11-1/2	1.94	2	3000	2805	1625
1-1/2HC	1-1/2 - 11-1/2	1-1/2 - 11-1/2	1.94	2-3/8	2400	2244	1300
2HC	2 - 11-1/2	2 - 11-1/2	1.96	2-7/8	2400	2244	1300

Bonded Washer

DW

Component

For Use with ISO Parallel Thread



SSP Part Number	Dimensions (in)		
	A	E	L
4DW-BSPP-SS-V	0.81	0.54	0.08
6DW-BSPP-SS-V	0.94	0.68	0.08
8DW-BSPP-SS-V	1.13	0.85	0.10
12DW-BSPP-SS-V	1.38	1.06	0.10
16DW-BSPP-SS-V	1.69	1.33	0.10

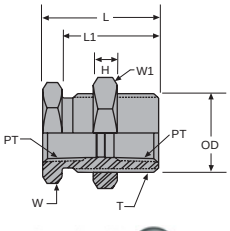
Washer manufactured from 300 series stainless steel with Viton

Bulkhead Coupling

A-AC

Coupling

Connects male NPT thread



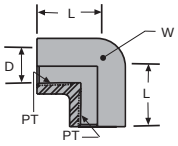
Download CAD Drawing

SSP Part Number	PT Pipe Thread	T Thread	L	L1	H	W Hex	W1 Hex	Nominal O.D.	SS Working Pressure
A1/8AC	1/8 - 27	5/8 - 18	1.50	1.25	0.20	7/8	15/16	0.43	10050
A1/4AC	1/4 - 18	3/4 - 16	1.50	1.25	0.31	1	1	0.56	8050
A3/8AC	3/8 - 18	1 - 14	1.31	1.13	0.25	1 - 1/8	1 - 1/4	0.89	7850
A1/2AC	1/2 - 14	1-1/8 - 14	1.50	1.25	0.31	1 - 1/4	1 - 3/8	1.00	7750

Female Elbow

FF

Elbow
Connects male NPT thread



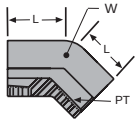
Download CAD Drawing

SSP Part Number	PT Pipe Thread	D Through Hole	L	W Wrench Flat	SS Working Pressure	Brass Working Pressure
1/8FF	1/8 - 27	0.33	0.66	5/8	6550	3250
1/4FF	1/4 - 18	0.42	0.88	3/4	6650	3350
3/8FF	3/8 - 18	0.56	1.02	7/8	5350	2650
1/2FF	1/2 - 14	0.69	1.23	1-1/8	4950	2450
3/4FF	3/4 - 14	0.89	1.36	1-3/8	4650	2350
1FF	1 - 11-1/2	1.13	1.62	1-5/8	4450	2250
1-1/4FF	1-1/4 - 11-1/2	1.47	1.70	1-7/8	1800	
1-1/2FF	1-1/2 - 11-1/2	1.69	2.08	2-1/2	4550	
2FF	2 - 11-1/2	2.16	2.39	2-7/8	3050	

45° Female Elbow

FF-45

Elbow
Connects male NPT thread

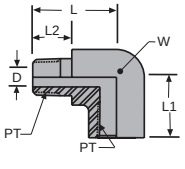


SSP Part Number	PT Pipe Thread	L	W Wrench	SS Working Pressure
1/8FF-45	1/8 - 27	0.50	15/16	5000
1/4FF-45	1/4 - 18	0.69	1-1/8	5000
3/8FF-45	3/8 - 18	0.75	1-5/16	4500
1/2FF-45	1/2 - 14	0.94	1-9/16	3000
3/4FF-45	3/4 - 14	1.00	2-1/8	3000
1FF-45	1 - 11-1/2	1.19	2-1/8	1750

Street Elbow

MF

Elbow
Connects female to male NPT thread



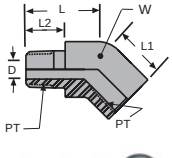
Download CAD Drawing

SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure	Monel Working Pressure	Brass Working Pressure
1/8MF	1/8 - 27	0.19	0.78	0.66	0.38	5/8	6550	3250	3250
1/4MF	1/4 - 18	0.28	1.09	0.88	0.56	3/4	6650	3350	3350
3/8MF	3/8 - 18	0.41	1.22	1.02	0.56	7/8	5350	2650	2650
1/2MF	1/2 - 14	0.53	1.47	1.23	0.75	1-1/8	4950	2450	2450
3/4MF	3/4 - 14	0.72	1.59	1.36	0.75	1-3/8	4650	2350	2350
1MF	1 - 11-1/2	0.94	1.97	1.62	0.94	1-5/8	4450	2250	2250
1-1/4MF	1-1/4 - 11-1/2	1.25	2.38	1.70	0.97	2	1800		
1-1/2MF	1-1/2 - 11-1/2	1.50	2.64	2.08	1.00	2-3/8	2800		
2MF	2 - 11-1/2	1.94	3.00	2.39	1.03	2-7/8	2450		

45° Street Elbow

MF-45

Elbow
Connects female to male NPT thread



Download CAD Drawing

SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure	Brass Working Pressure
1/8MF-45	1/8 - 27	0.19	0.72	0.47	0.38	9/16	6550	3250
1/4MF-45	1/4 - 18	0.28	1.05	0.62	0.56	3/4	6650	3350
3/8MF-45	3/8 - 18	0.41	1.06	0.72	0.56	7/8	5350	2650
1/2MF-45	1/2 - 14	0.53	1.34	0.91	0.75	1 - 1/16	4950	2450
3/4MF-45	3/4 - 14	0.72	1.38	0.97	0.75	1 - 5/16	4650	2350
1MF-45	1 - 11-1/2	0.94	1.72	1.12	0.94	1 - 5/8	4450	2250
1-1/4MF-45	1-1/4 - 11-1/2	1.25	1.80	1.63	0.97	2	2350	
1-1/2MF-45	1-1/2 - 11-1/2	1.50	2.06	1.69	1.00	2 - 3/8	2800	

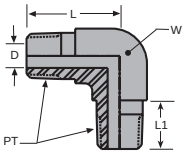
Threaded Pipe Fittings & Adapters

Male Elbow

MM

Elbow

Connects female NPT thread



Download CAD Drawing

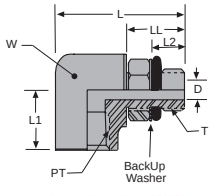
SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure	Brass Working Pressure
1/8MM	1/8 - 27	0.19	0.78	0.38	7/16	10050	5050
1/4MM	1/4 - 18	0.28	1.09	0.56	9/16	8050	4050
3/8MM	3/8 - 18	0.41	1.22	0.56	3/4	7850	3950
1/2MM	1/2 - 14	0.53	1.47	0.75	7/8	7750	3850
3/4MM	3/4 - 14	0.72	1.59	0.75	1-1/16	4150	2100
1MM	1 - 11-1/2	0.94	1.97	0.94	1- 5/8	3800	1500

Female Pipe x Straight Thread Elbow

GEF

Elbow

Connects female SAE/MS to male NPT thread



Download CAD Drawing

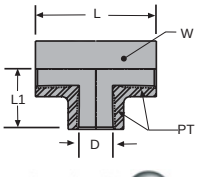
SSP Part Number	PT Pipe Thread	T Thread	D Through Hole	L	L1	L2	LL	W Wrench Flat	SS Working Pressure
4X1/4GEF	1/4 - 18	7/16 - 20	0.20	1.18	0.63	0.38	0.75	3/4	5000
6X3/8GEF	3/8 - 18	9/16 - 18	0.30	1.34	0.63	0.44	0.77	7/8	4500
6X1/4GEF	1/4 - 18	9/16 - 18	0.30	1.25	0.63	0.44	0.77	3/4	5000
8X3/8GEF	3/8 - 18	3/4 - 16	0.39	1.47	0.63	0.44	0.88	7/8	4500
8X1/2GEF	1/2 - 14	3/4 - 16	0.39	1.65	0.75	0.50	0.88	1-1/16	3000
10X1/2GEF	1/2 - 14	7/8 - 14	0.50	1.81	0.75	0.50	1.02	1-1/16	3000
12X3/4GEF	3/4 - 14	1-1/16 - 12	0.66	2.00	0.81	0.66	1.16	1-5/16	3000
16X3/4GEF	3/4 - 14	1-5/16 - 12	0.88	2.05	0.81	0.66	1.16	1-5/16	3000

Female Tee

FFF

Tee

Connects male NPT thread



Download CAD Drawing

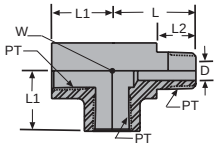
SSP Part Number	PT Pipe Thread	D Throug Hole	L	L1	W Wrench Flat	SS Working Pressure	Brass Working Pressure
1/8FFF	1/8 - 27	0.19	1.32	0.66	9/16	6550	3250
1/4FFF	1/4 - 18	0.28	1.76	0.88	3/4	6650	3350
3/8FFF	3/8 - 18	0.41	2.04	1.02	7/8	5350	2650
1/2FFF	1/2 - 14	0.53	2.46	1.23	1- 1/16	4950	2450
3/4FFF	3/4 - 14	0.72	2.72	1.36	1- 5/16	4650	2350
1FFF	1 - 11-1/2	0.94	3.26	1.63	1- 5/8	4450	2250
1-1/4FFF	1-1/4 - 11-1/2	1.25	3.40	1.70	1- 7/8	1650	
1-1/2FFF	1-1/2 - 11-1/2	1.50	4.16	2.08	2- 1/2	4500	
2FFF	2 - 11-1/2	1.94	4.78	2.39	2- 7/8	2950	

Male Run Tee

FMF

Tee

Connects male NPT to female NPT thread



Download CAD Drawing

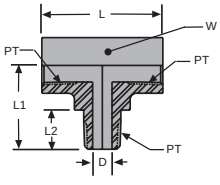
SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure	Brass Working Pressure
1/8FMF	1/8 - 27	0.19	0.78	0.66	0.38	5/8	6550	3250
1/4FMF	1/4 - 18	0.28	1.09	0.88	0.56	3/4	6650	3350
3/8FMF	3/8 - 18	0.41	1.22	1.02	0.56	7/8	5350	2650
1/2FMF	1/2 - 14	0.53	1.47	1.23	0.75	1-1/8	4950	2450
3/4FMF	3/4 - 14	0.72	1.59	1.36	0.75	1-3/8	3850	1950
1FMF	1 - 11-1/2	0.94	1.97	1.62	0.94	1-5/8	3800	
1-1/4FMF	1-1/4 - 11-1/2	1.25	2.38	1.70	0.97	2	1700	
1-1/2FMF	1-1/2 - 11-1/2	1.50	2.64	2.08	1.00	2-3/8	2800	
2FMF	2 - 11-1/2	1.94	3.00	2.39	1.03	2-7/8	2450	

Male Branch Tee

FFM

Tee

Connects male NPT to female NPT thread



Download CAD Drawing

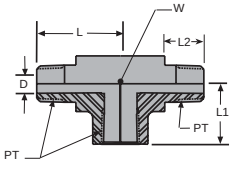
SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	L2	W Wrench Flat	SS Working Pressure	Brass Working Pressure
1/8FFM	1/8 - 27	0.19	1.32	0.78	0.38	5/8	6550	3250
1/4FFM	1/4 - 18	0.28	1.76	1.09	0.56	3/4	6650	3350
3/8FFM	3/8 - 18	0.41	2.04	1.22	0.56	7/8	5350	2650
1/2FFM	1/2 - 14	0.53	2.46	1.47	0.75	1-1/8	4950	2450
3/4FFM	3/4 - 14	0.72	2.72	1.59	0.77	1-3/8	3850	1950
1FFM	1 - 11-1/2	0.94	3.24	1.97	0.94	1-5/8	3800	
1-1/4FFM	1-1/4 - 11-1/2	1.25	3.40	2.38	0.94	2	1700	
1-1/2FFM	1-1/2 - 11-1/2	1.50	4.16	2.64	0.94	2-3/8	2800	
2FFM	2 - 11-1/2	1.94	4.78	3.00	0.97	2-7/8	2450	

Female Branch Tee

MMF

Tee

Connects female to male NPT thread



Download CAD Drawing

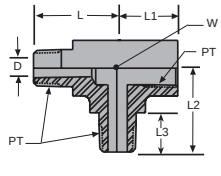
SSP Part Number	PT Pipe Thread	L	L1	L2	D Through Hole	W Wrench Flat	SS Working Pressure
1/4MMF	1/4 - 18	1.09	0.88	0.56	0.28	3/4	5850
3/8MMF	3/8 - 18	1.22	1.02	0.56	0.41	7/8	4000
1/2MMF	1/2 - 14	1.47	1.23	0.75	0.53	1 - 1/16	4350
3/4MMF	3/4 - 14	1.59	1.36	0.75	0.72	1 - 5/16	3850
1MMF	1 - 11-1/2	1.97	1.62	0.94	0.94	1 - 5/8	3800

Female Run Tee

MFM

Tee

Connects female to male NPT thread



Download CAD Drawing

SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	L2	L3	W Wrench Flat	SS Working Pressure
1/8MFM	1/8 - 27	0.19	0.78	0.66	0.78	0.38	5/8	5850
1/4MFM	1/4 - 18	0.28	1.09	0.88	1.09	0.56	3/4	5850
3/8MFM	3/8 - 18	0.41	1.22	1.02	1.22	0.56	7/8	4000
1/2MFM	1/2 - 14	0.53	1.47	1.23	1.47	0.75	1-1/8	4350
3/4MFM	3/4 - 14	0.72	1.59	1.36	1.59	0.75	1-3/8	3850
1MFM	1 - 11-1/2	0.94	1.97	1.62	1.97	0.94	1-5/8	3800

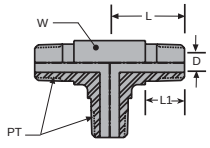
Threaded Pipe Fittings & Adapters

Male Tee

MMM

Tee

Connects female NPT thread



Download CAD Drawing

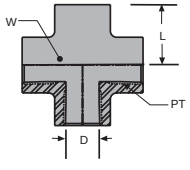
SSP Part Number	PT Pipe Thread	D Through Hole	L	L1	W Wrench Flat	SS Working Pressure	Monel Working Pressure	Brass Working Pressure
1/8MMM	1/8 - 27	0.19	0.78	0.38	7/16	10050	5050	5050
1/4MMM	1/4 - 18	0.28	1.09	0.56	9/16	8050	4050	4050
3/8MMM	3/8 - 18	0.41	1.22	0.56	3/4	7850	3950	3950
1/2MMM	1/2 - 14	0.53	1.47	0.75	7/8	7750	3850	3850
3/4MMM	3/4 - 14	0.72	1.59	0.75	1 - 1/16	4150		
1MMM	1 - 11-1/2	0.94	1.97	0.94	1 - 5/16	3800		

Female Cross

FFFF

Cross

Connects male NPT thread



Download CAD Drawing

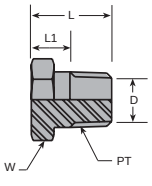
SSP Part Number	PT Pipe Thread	D Through Hole	L	W Wrench Flat
1/8FFFF	1/8 - 27	0.19	0.66	9/16
1/4FFFF	1/4 - 18	0.28	0.88	3/4
3/8FFFF	3/8 - 18	0.41	1.02	7/8
1/2FFFF	1/2 - 14	0.53	1.23	1- 1/16
3/4FFFF	3/4 - 14	0.72	1.36	1- 5/16
1FFFF	1 - 11-1/2	0.94	1.63	1- 5/8

Hex Head Plug

HP

Plug

NPT tapered pipe thread



Download CAD Drawing

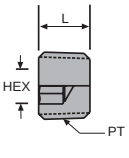
SSP Part Number	PT Pipe Thread	D Through Hole	L	L1 After Inst.	W Hex	SS Working Pressure	Brass Working Pressure
1/8HP	1/8 - 27	0.16	0.56	0.33	7/16	10050	5050
1/4HP	1/4 - 18	0.25	0.75	0.41	9/16	8050	4050
3/8HP	3/8 - 18	0.38	0.78	0.43	11/16	7850	3950
1/2HP	1/2 - 14	0.50	0.97	0.51	7/8	7750	3850
3/4HP	3/4 - 14	0.69	1.06	0.58	1- 1/16	7350	3650
1HP	1 - 11-1/2	0.88	1.25	0.68	1- 3/8	5350	2650
1-1/4HP	1 1/4 - 11-1/2	1.18	1.44	0.97	1- 3/4	3000	

Hex Countersunk Plug

CP

Plug

Plugs NPT thread port



Download CAD Drawing

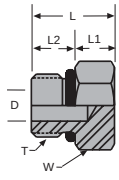
SSP Part Number	PT Pipe Thread	L	Hex	SS Working Pressure	Brass Working Pressure
1/8CP	1/8 - 27	0.27	3/16	10050	5050
1/4CP	1/4 -18	0.41	1/4	8050	4050
3/8CP	3/8 - 18	0.41	5/16	7850	3950
1/2CP	1/2 - 14	0.54	3/8	7750	3950
3/4CP	3/4 - 14	0.55	9/16	7350	3650
1CP	1 - 11-1/2	0.69	5/8	5350	2650

Straight Thread Plug

GP

Plug

Plugs an SAE/MS straight thread boss



Download CAD Drawing

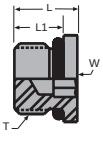
SSP Part Number	T Thread	D Through Hole	L	L1	L2	W Hex	SS Working Pressure
2GP	5/16 - 24	0.09	0.60	0.28	0.30	7/16	7200
3GP	3/8 - 24	0.13	0.60	0.28	0.30	1/2	7200
4GP	7/16 - 20	0.20	0.67	0.28	0.36	9/16	7200
5GP	1/2 - 20	0.23	0.67	0.28	0.36	5/8	7200
6GP	9/16 - 18	0.30	0.73	0.31	0.39	11/16	7200
8GP	3/4 - 16	0.42	0.80	0.34	0.44	7/8	7200
10GP	7/8 - 14	0.50	0.93	0.41	0.50	1	7200
12GP	1-1/16 - 12	0.66	1.09	0.47	0.59	1-1/4	7200
14GP	1-3/16 - 12	0.72	1.09	0.47	0.59	1-3/8	6600
16GP	1-5/16 - 12	0.88	1.12	0.50	0.59	1-1/2	6600
20GP	1-5/8 - 12	1.09	1.20	0.58	0.59	1-7/8	4800
24GP	1-7/8 - 12	1.34	1.27	0.65	0.59	2-1/8	3600
32GP	2-1/2 - 12	1.81	1.43	0.81	0.59	2-3/4	2400

Straight Thread Hex Countersunk Plug

CGP

Plug

Plugs an SAE/MS straight thread boss



Download CAD Drawing

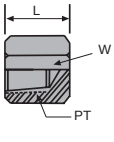
SSP Part Number	T Thread	L	L1	W Hex	SS Working Pressure
2CGP	5/16 - 24	0.40	0.30	1/8	7200
3CGP	3/8 - 24	0.40	0.30	1/8	7200
4CGP	7/16 - 20	0.47	0.36	3/16	7200
5CGP	1/2 - 20	0.47	0.36	3/16	7200
6CGP	9/16 - 18	0.50	0.39	1/4	7200
8CGP	3/4 - 16	0.58	0.44	5/16	7200
10CGP	7/8 - 14	0.65	0.50	6/16	7200
12CGP	1-1/16 - 12	0.77	0.59	9/16	7200
14CGP	1-3/16 - 12	0.77	0.59	9/16	6600
16CGP	1-5/16 - 12	0.77	0.59	10/16	6600
20CGP	1-5/8 - 12	0.77	0.59	3/4	4800
24CGP	1-7/8 - 12	0.77	0.59	3/4	3600
32CGP	2-1/2 - 12	0.77	0.59	3/4	2400

Pipe Cap

PC

Cap

Caps male NPT thread



SSP Part Number	PT Pipe Thread	L	W Hex	SS Working Pressure	Brass Working Pressure
1/8 PC	1/8 - 27	0.53	5/8	6550	3250
1/4 PC	1/4 - 18	0.91	3/4	6650	3350
3/8 PC	3/8 - 18	1.03	7/8	5350	2650
1/2 PC	1/2 - 14	1.34	1-1/8	4950	2450
3/4 PC	3/4 - 14	1.43	1-3/8	4650	2350
1 PC	1 - 11-1/2	1.62	1-5/8	4450	2250

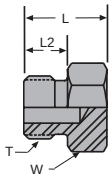
Threaded Pipe Fittings & Adapters

BSP Straight Thread Plug

GP-BSPP

Plug

Plugs an ISO parallel thread boss



SSP Part Number	T Thread BSPP	L	L2	W Hex	SS Working Pressure
4GP-BSPP	1/4 - 19	0.71	0.45	3/4	7200
6GP-BSPP	3/8 - 19	0.86	0.45	7/8	7200
8GP-BSPP	1/2 - 14	1.06	0.56	1-1/8	7200
12GP-BSPP	3/4 - 14	1.12	0.56	1-3/8	7200
16GP-BSPP	1 - 11	1.33	0.73	1-3/4	6600

DIN-ISO 228/1, JIS B0202, BS 2779. Requires bonded washer.

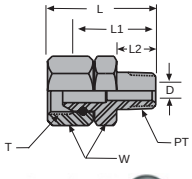
Pipe Swivels

Male Connector

PS-C

Swivel Adapter

Connects male NPT with 30° taper and male NPSM to female NPT thread



Download CAD Drawing

SSP Part Number	Pipe Size	T NPSM	PT Pipe Thread	D	L	L1	L2	W Hex	SS Working Pressure
PS4-4C	1/4	1/4 - 18	1/4 - 18	0.13	1.19	1.00	0.56	11/16	9200
PS6-4C	3/8	3/8 - 18	1/4 - 18	0.13	1.59	1.36	0.56	7/8	9200
PS6-6C	3/8	3/8 - 18	3/8 - 18	0.22	1.62	1.39	0.56	7/8	9200
PS6-8C	3/8	3/8 - 18	1/2 - 14	0.33	1.74	1.61	0.75	1	9200
PS8-8C	1/2	1/2 - 14	1/2 - 14	0.33	1.74	1.47	0.75	1	9200
PS12C	3/4	3/4 - 14	3/4 - 14	0.65	2.25	1.84	0.75	1 - 1/4	6000
PS16C	1	1 - 11-1/2	1 - 11-1/2	0.83	2.49	2.06	0.94	1 - 1/2	6000
PS20C	1 - 1/4	1-1/4 - 11-1/2	1-1/4 - 11-1/2	1.12	2.64	2.18	0.97	1 - 7/8	6000
PS24C	1 - 1/2	1-1/2 - 11-1/2	1-1/2 - 11-1/2	1.36	2.81	2.31	1.00	2 - 1/8	4000
PS32C	2	2 - 11-1/2	2 - 11-1/2	1.79	2.96	2.46	1.03	2 - 5/8	4000

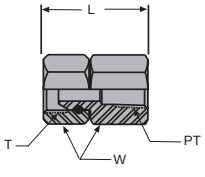
Swivel nut may be secured by either pinning or crimping to fitting body

Female Connector

PS-FC

Swivel Adapter

Connects male NPT with 30° taper and male NPSM to male NPT thread



Download CAD Drawing

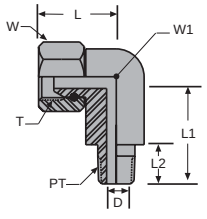
SSP Part Number	Pipe Size	T NPSM	PT Pipe Thread	L	W Hex	SS Working Pressure
PS2FC	1/8	1/8 - 27	1/8 - 27	0.90	9/16	6000
PS4-4FC	1/4	1/4 - 18	1/4 - 18	1.50	11/16	6000
PS6-6FC	3/8	3/8 - 18	3/8 - 18	1.62	7/8	4800
PS8-8FC	1/2	1/2 - 14	1/2 - 14	1.67	1	4200
PS12FC	3/4	3/4 - 14	3/4 - 14	2.10	1 - 1/4	2700
PS16FC	1	1 - 11-1/2	1 - 11-1/2	2.49	1 - 1/2	2400
PS20FC	1 - 1/4	1-1/4 - 11-1/2	1-1/4 - 11-1/2	2.52	1 - 7/8	1950
PS24FC	1 - 1/2	1-1/2 - 11-1/2	1-1/2 - 11-1/2	2.56	2 - 1/8	1500
PS32FC	2	2 - 11-1/2	2 - 11-1/2	2.68	2 - 5/8	1350

Swivel nut may be secured by either pinning or crimping to fitting body

Male Elbow

PS-ME

Swivel Adapter
Connects male NPT with 30° taper or male NPSM to female NPT



Download CAD Drawing

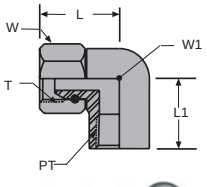
SSP Part Number	Pipe Size	T NPSM	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	W1 Wrench Flat	SS Working Pressure
PS2ME	1/8	1/8 - 27	1/8 - 27	0.17	0.80	0.94	0.38	9/16	7/16	5000
PS4-4ME	1/4	1/4 - 18	1/4 - 18	0.13	0.91	1.06	0.56	9/16	7/16	5000
PS6-4ME	3/8	3/8 - 18	1/4 - 18	0.22	1.18	1.31	0.56	11/16	1/2	4000
PS6-6ME	3/8	3/8 - 18	3/8 - 18	0.22	1.18	1.31	0.56	11/16	1/2	4000
PS6-8ME	3/8	3/8 - 18	1/2 - 14	0.33	1.18	1.56	0.75	11/16	3/4	3500
PS8-8ME	1/2	1/2 - 14	1/2 - 14	0.33	1.40	1.56	0.75	7/8	3/4	3500
PS12ME	3/4	3/4 - 14	3/4 - 14	0.65	1.72	2.06	0.75	1 - 1/4	1-5/16	2250
PS16ME	1	1 - 11-1/2	1 - 11-1/2	0.83	1.93	2.44	0.94	1 - 1/2	1-5/16	2000
PS20ME	1 - 1/4	1-1/4 - 11-1/2	1-1/4 - 11-1/2	1.12	2.25	2.68	0.97	1 - 7/8	1-5/8	1625
PS24ME	1 - 1/2	1-1/2 - 11-1/2	1-1/2 - 11-1/2	1.36	2.81	2.87	1.00	2 - 1/8	1-7/8	1250
PS32ME	2	2 - 11-1/2	2 - 11-1/2	1.79	2.87	3.37	1.03	2 - 5/8	2-1/2	1125

Swivel nut may be secured by either pinning or crimping to fitting body

Female Elbow

PS-FE

Swivel Adapter
Connects male NPT with 30° taper and male NPSM to male NPT thread



Download CAD Drawing

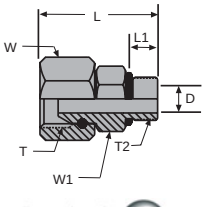
SSP Part Number	Pipe Size	T NPSM	PT Pipe Thread	L	L1	W Hex	W1 Wrench Flat	SS Working Pressure
PS4-4FE	1/4	1/4 - 18	1/4 - 18	0.91	0.75	11/16	3/4	5000
PS6-6FE	3/8	3/8 - 18	3/8 - 18	1.18	1.00	7/8	7/8	4000
PS8-8FE	1/2	1/2 - 14	1/2 - 14	1.40	1.12	1	1-1/16	3500
PS12FE	3/4	3/4 - 14	3/4 - 14	1.72	1.56	1 - 1/4	1-5/16	2250
PS16FE	1	1 - 11-1/2	1 - 11-1/2	1.93	1.81	1 - 1/2	1-5/8	2000
PS20FE	1 - 1/4	1-1/4 - 11-1/2	1-1/4 - 11-1/2	2.25	2.06	1 - 7/8	1-7/8	1625
PS24FE	1 - 1/2	1-1/2 - 11-1/2	1-1/2 - 11-1/2	2.81	2.31	2 - 1/8	2-1/2	1250
PS32FE	2	2 - 11-1/2	2 - 11-1/2	2.87	2.81	2 - 5/8	3	1125

Swivel nut may be secured by either pinning or crimping to fitting body

Straight Thread Connector

PS-GC

Swivel Adapter
Connects male NPT with 30° taper or male NPSM to female SAE/MS



Download CAD Drawing

SSP Part Number	Pipe Size	T NPSM	T2 Thread	D Through Hole	L	L1	W Hex	W1 Hex	SS Working Pressure
PS4-4GC	1/4	1/4 - 18	7/16 - 20	0.11	1.13	0.36	11/16	9/16	6000
PS6-6GC	3/8	3/8 - 18	9/16 - 18	0.21	1.42	0.39	7/8	11/16	4800
PS8-8GC	1/2	1/2 - 14	3/4 - 16	0.33	1.56	0.44	1	7/8	4200
PS12GC	3/4	3/4 - 14	1 - 1/16 - 12	0.60	1.97	0.59	1 - 1/4	1 - 1/4	2700
PS16GC	1	1 - 11-1/2	1 - 5/16 - 12	0.83	2.20	0.59	1 - 1/2	1 - 1/2	2400
PS20GC	1 - 1/4	1-1/4 - 11-1/2	1 - 5/8 - 12	1.07	2.37	0.59	1 - 7/8	1 - 7/8	1950
PS24GC	1 - 1/2	1-1/2 - 11-1/2	1 - 7/8 - 12	1.30	2.56	0.59	2 - 1/8	2 - 1/8	1500
PS32GC	2	2 - 11-1/2	2 - 1/2 - 12	1.77	2.72	0.59	2 - 5/8	2 - 3/4	1350

Swivel nut may be secured by either pinning or crimping to fitting body

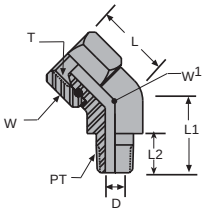
Pipe Swivels

45° Male Elbow

PS-ME-45

Swivel Adapter

Connects male NPT with 30° taper and male NPSM to female NPT thread



Download CAD Drawing

SSP Part Number	Pipe Size	T NPSM	PT Pipe Thread	D Through Hole	L	L1	L2	W Hex	W1 Wrench Flat	SS Working Pressure
PS4-4ME-45	1/4	1/4 - 18	1/4 - 18	0.13	0.88	0.73	0.56	9/16	7/16	5000
PS6-6ME-45	3/8	3/8 - 18	3/8 - 18	0.22	1.06	1.00	0.56	11/16	1/2	4000
PS8-8ME-45	1/2	1/2 - 14	1/2 - 14	0.33	1.23	1.12	0.75	7/8	3/4	3500
PS12ME-45	3/4	3/4 - 14	3/4 - 14	0.65	1.42	1.56	0.75	1 - 1/4	1-5/16	2250
PS16ME-45	1	1 - 11-1/2	1 - 11-1/2	0.83	1.51	1.56	0.94	1 - 1/2	1-5/16	2000
PS20ME-45	1 - 1/4	1-1/4 - 11-1/2	1-1/4 - 11-1/2	1.12	1.81	1.87	0.97	1 - 7/8	1-5/8	1625
PS24ME-45	1 - 1/2	1-1/2 - 11-1/2	1-1/2 - 11-1/2	1.36	1.94	2.03	1.00	2 - 1/8	1-7/8	1250
PS32ME-45	2	2 - 11-1/2	2 - 11-1/2	1.79	2.06	2.31	1.03	2 - 5/8	2-1/2	1125

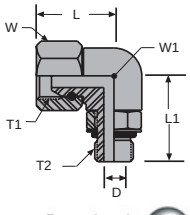
Swivel nut may be secured by either pinning or crimping to fitting body

Straight Thread Elbow

PS-GE

Swivel Adapter

Connects male NPT with 30° taper or male NPSM to female SAE/MS



Download CAD Drawing

SSP Part Number	Pipe Size	T1 NPSM	T2 Thread	D Through Hole	L	L1	W Hex	W1 Wrench Flat	SS Working Pressure
PS4GE	1/4	1/4 - 18	7/16 - 20	0.13	0.91	1.00	9/16	7/16	5000
PS6GE	3/8	3/8 - 18	9/16 - 18	0.22	1.18	1.25	11/16	1/2	4000
PS8GE	1/2	1/2 - 14	3/4 - 16	0.33	1.40	1.51	7/8	3/4	3500
PS12GE	3/4	3/4 - 14	1 - 1/16 - 12	0.65	1.72	2.00	1 - 1/4	1-5/16	2250
PS16GE	1	1 - 11-1/2	1 - 5/16 - 12	0.83	1.93	2.15	1 - 1/2	1-5/16	2000
PS20GE	1 - 1/4	1-1/4 - 11-1/2	1 - 5/8 - 12	1.12	2.25	2.53	1 - 7/8	1-5/8	1625
PS24GE	1 - 1/2	1-1/2 - 11-1/2	1 - 7/8 - 12	1.36	2.81	2.67	2 - 1/8	1-7/8	1250
PS32GE	2	2 - 11-1/2	2 - 1/2 - 12	1.79	2.87	3.31	2 - 5/8	2-1/2	1125

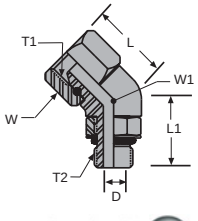
Swivel nut may be secured by either pinning or crimping to fitting body

45° Straight Thread Elbow

PS-GE-45

Swivel Adapter

Connects male NPT with 30° taper and male NPSM to female SAE/MS



Download CAD Drawing

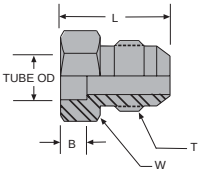
SSP Part Number	Pipe Size	T1 NPSM	T2 Thread	D Through Hole	L	L1	W Hex	W1 Wrench Flat	SS Working Pressure
PS4GE-45	1/4	1/4 - 18	7/16 - 20	0.11	0.88	0.94	9/16	7/16	5000
PS6GE-45	3/8	3/8 - 18	9/16 - 18	0.21	1.06	1.20	11/16	1/2	4000
PS8GE-45	1/2	1/2 - 14	3/4 - 16	0.33	1.23	1.36	7/8	3/4	3500
PS12GE-45	3/4	3/4 - 14	1 - 1/16 - 12	0.60	1.42	1.79	1 - 1/4	1-5/16	2250
PS16GE-45	1	1 - 11-1/2	1 - 5/16 - 12	0.83	1.51	1.92	1 - 1/2	1-5/16	2000
PS20GE-45	1 - 1/4	1-1/4 - 11-1/2	1 - 5/8 - 12	1.07	1.81	1.87	1 - 7/8	1-5/8	1625
PS24GE-45	1 - 1/2	1-1/2 - 11-1/2	1 - 7/8 - 12	1.30	1.94	2.34	2 - 1/8	1-7/8	1250
PS32GE-45	2	2 - 11-1/2	2 - 1/2 - 12	1.77	2.06	2.06	2 - 5/8	2-1/2	1125

Swivel nut may be secured by either pinning or crimping to fitting body

Weld/Braze Adapter for Tube Socket

B-J

Tube to Tube Union
Connects fractional tube to flared tube



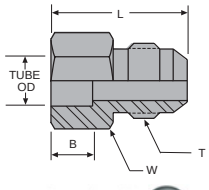
Download CAD Drawing

SSP Part Number	Tube O.D.	B	L	T Thread	W Hex	SS Working Pressure	Monel Working Pressure
B4-4J	1/4	0.16	0.74	7/16 - 20	1/2	6000	5610
B6-6J	3/8	0.16	0.81	9/16 - 18	5/8	6000	5610
B8-8J	1/2	0.16	0.94	3/4 - 16	1-3/16	6000	5610
B12-12J	3/4	0.25	1.24	1-1/16 - 12	1-1/8	6000	5610
B16-16J	1	0.25	1.29	1-5/16 - 12	1-3/8	4800	4480
B20-20J	1-1/4	0.25	1.40	1-5/8 - 12	1-11/16	3600	3360
B24-24J	1-1/2	0.25	1.58	1-7/8 - 12	2	2400	2240
B32-32J	2	0.25	1.96	2-1/2 - 12	2-5/8	1800	1680

Weld/Braze Adapter for Tube-Deeper Socket

BZ-J

Tube to Tube Union
Connects fractional tube to flared tube



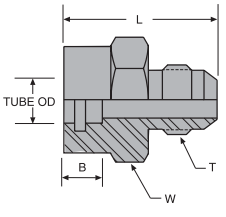
Download CAD Drawing

SSP Part Number	Tube O.D.	B	L	T Thread	W Hex	SS Working Pressure
BZ4-4J	1/4	0.25	0.89	7/16 - 20	11/16	6000
BZ6-6J	3/8	0.25	0.91	9/16 - 18	7/8	6000
BZ8-8J	1/2	0.27	1.06	3/4 - 16	13/16	6000
BZ12-12J	3/4	0.38	1.41	1-1/16 - 12	1-1/2	4800
BZ16-16J	1	0.38	1.53	1-5/16 - 12	1-11/16	3600

Silbraze Adapter for Tube Socket

BZ-J-UT

Tube to Tube Union
Connects fractional tube to flared tube



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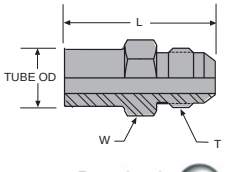
SSP Part Number	Tube O.D.	B	L	T Thread	W Hex	SS Working Pressure
BZ4-4J-UT	1/4	0.25	1.05	7/16 - 20	11/16	6000
BZ6-6J-UT	3/8	0.31	1.24	9/16 - 18	7/8	6000
BZ8-8J-UT	1/2	0.47	1.41	3/4 - 16	1	6000
BZ12-12J-UT	3/4	0.56	2.04	1-1/16 - 12	1-1/2	4800
BZ16-16J-UT	1	0.69	2.21	1-5/16 - 12	1-11/16	3600
BZ20-20J-UT	1-1/4	0.81	2.44	1-5/8 - 12	2	3000
BZ24-24J-UT	1-1/2	0.94	2.88	1-7/8 - 12	2-1/2	2400
BZ32-32J-UT	2	1.06	3.33	2-1/2 - 12	3-1/2	1800

Weld/Braze Adapter for Male Tube Stub

BM-J

Tube to Tube Union
Connects tube socket to flared tube



Download CAD Drawing

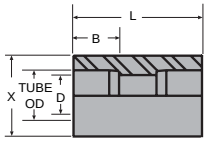
SSP Part Number	Tube O.D.	L	T Thread	W Hex	SS Working Pressure	Monel Working Pressure
BM4-4J	1/4	1.36	7/16 - 20	1/2	6000	5610
BM6-6J	3/8	1.43	9/16 - 18	5/8	6000	5610
BM8-8J	1/2	1.63	3/4 - 16	13/16	6000	5610
BM12-12J	3/4	2.06	1-1/16 - 12	1-1/8	4800	4480
BM16-16J	1	2.35	1-5/16 - 12	1-3/8	3600	3360
BM20-20J	1-1/4	2.59	1-5/8 - 12	1-11/16	3600	3360
BM24-24J	1-1/2	3.02	1-7/8 - 12	2	2400	2240
BM32-32J	2	3.58	2-1/2 - 12	2-5/8	1800	1680

Weld & Braze Adapters

Socket Weld Union

SWU

Tube to Tube Union
Connects fractional tubes



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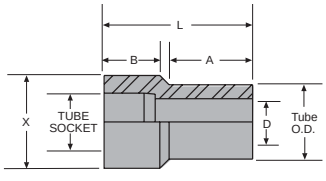
SSP Part Number	Tube O.D.	B	D Through Hole	L	X	SS Working Pressure	Monel Working Pressure
4SWU	1/4	0.25	0.19	0.75	0.50	10000	9350
6SWU	3/8	0.34	0.31	0.97	0.63	7600	7100
8SWU	1/2	0.41	0.44	1.06	0.81	6200	5795
10SWU	5/8	0.47	0.50	1.25	0.94	6400	5980
12SWU	3/4	0.50	0.66	1.31	1.13	5500	5140
16SWU	1	0.56	0.91	1.56	1.38	5200	4860

Socket Weld Reducing Insert

SWI

Tube to Tube Union
Connects tube to tube socket



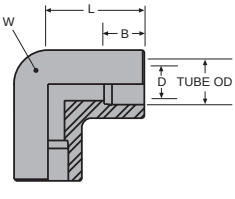
Download CAD Drawing

SSP Part Number	Tube O.D.	Tube Socket	A	B	D Through Hole	L	X	SS Working Pressure
4-2SWI	1/4	1/8	0.38	0.16	0.09	0.70	0.38	10500
6-4SWI	3/8	1/4	0.47	0.25	0.19	0.83	0.53	7700
8-4SWI	1/2	1/4	0.47	0.25	0.19	0.88	0.50	7000
8-6SWI	1/2	3/8	0.56	0.34	0.31	1.00	0.63	7000
10-8SWI	5/8	1/2	0.63	0.41	0.44	1.17	0.81	5900
12-8SWI	3/4	1/2	0.69	0.41	0.44	1.19	0.81	5900
16-8SWI	1	1/2	0.50	0.41	0.44	1.41	0.81	5000
16-12SWI	1	3/4	0.75	0.47	0.66	1.39	1.13	5000

Socket Weld Elbow

SWE

Tube to Tube Union
Connects fractional tubes



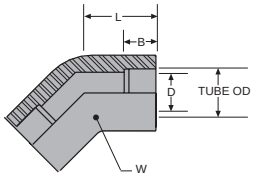
Download CAD Drawing

SSP Part Number	Tube O.D.	B	D Through Hole	L	W Wrench Flat	SS Working Pressure	Monel Working Pressure
4SWE	1/4	0.25	0.19	0.69	7/16	11300	10560
6SWE	3/8	0.34	0.31	0.81	9/16	8300	7760
8SWE	1/2	0.41	0.44	1.00	3/4	7800	7290
10SWE	5/8	0.47	0.50	1.16	7/8	6700	6265
12SWE	3/4	0.50	0.66	1.31	1-1/16	6700	6265
16SWE	1	0.56	0.91	1.47	1-5/16	6100	5700

Socket Weld 45° Elbow

SWE-45

Tube to Tube Union
Connects fractional tubes



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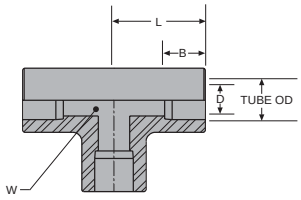
SSP Part Number	Tube O.D.	B	D Through Hole	L	W Wrench Flat	SS Working Pressure
4SWE-45	1/4	0.25	0.19	0.59	7/16	11000
6SWE-45	3/8	0.34	0.31	0.75	9/16	8300
8SWE-45	1/2	0.41	0.44	0.84	3/4	7800
12SWE-45	3/4	0.50	0.66	1.13	1-1/16	6700
16SWE-45	1	0.56	0.91	1.25	1-5/16	6100

Socket Weld Tee

SWT

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	B	D Through Hole	L	W Wrench Flat	SS Working Pressure	Monel Working Pressure
4SWT	1/4	0.25	0.19	0.69	7/16	11300	10565
6SWT	3/8	0.34	0.31	0.81	9/16	8300	7760
8SWT	1/2	0.41	0.44	1.00	3/4	7800	7290
10SWT	5/8	0.47	0.50	1.16	7/8	6700	6260
12SWT	3/4	0.50	0.66	1.31	1-1/16	6700	6260
16SWT	1	0.56	0.91	1.47	1-5/16	6100	5700



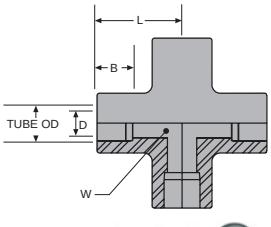
Download CAD Drawing

Socket Weld Cross

SWX

Tube to Tube Union
Connects fractional tubes

SSP Part Number	Tube O.D.	B	D Through Hole	L	W Wrench Flat	SS Working Pressure	Monel Working Pressure
4SWX	1/4	0.25	0.19	0.69	7/16	11300	10560
6SWX	3/8	0.34	0.31	0.81	9/16	8300	7760
8SWX	1/2	0.41	0.44	1.00	3/4	7800	7200



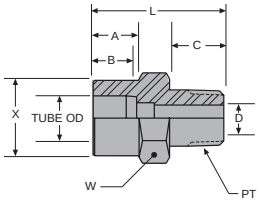
Download CAD Drawing

Socket Weld Male Connector

SWC

Tube to Pipe
Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	A	B	C	D Through Hole	L	W Hex	X	SS Working Pressure
4SWC	1/4	1/8	0.30	0.25	0.38	0.19	0.88	1/2	0.48	8200
4-4SWC	1/4	1/4	0.30	0.25	0.56	0.19	1.12	5/8	0.50	7500
6SWC	3/8	1/4	0.41	0.34	0.56	0.28	1.25	5/8	0.61	7500
6-6SWC	3/8	3/8	0.42	0.34	0.56	0.31	1.31	3/4	0.63	7300
6-8SWC	3/8	1/2	0.42	0.34	0.75	0.31	1.50	7/8	0.63	7200
8SWC	1/2	3/8	0.55	0.41	0.56	0.41	1.44	13/16	0.79	6200
8-8SWC	1/2	1/2	0.55	0.41	0.75	0.44	1.66	7/8	0.81	6200
10SWC	5/8	1/2	0.53	0.47	0.75	0.50	1.63	15/16	0.92	6700
12SWC	3/4	3/4	0.58	0.50	0.75	0.66	1.69	1-1/8	1.11	6700
16SWC	1	1	0.67	0.56	0.94	0.91	2.00	1-3/8	1.36	6100



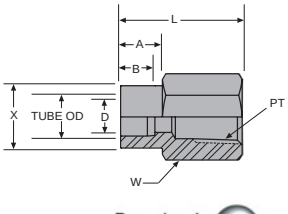
Download CAD Drawing

Socket Weld Female Connector

SWFC

Tube to Pipe
Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	A	B	D	L	W Hex	X	SS Working Pressure
4SWFC	1/4	1/8	0.31	0.25	0.19	0.97	9/16	0.50	6100
4-4SWFC	1/4	1/4	0.31	0.25	0.19	1.13	3/4	0.50	6200
6SWFC	3/8	1/4	0.41	0.34	0.31	1.22	3/4	0.63	6200
8SWFC	1/2	3/8	0.50	0.41	0.44	1.41	15/16	0.81	5000
8-8SWFC	1/2	1/2	0.50	0.41	0.44	1.63	1-1/16	0.81	4600
10SWFC	5/8	1/2	0.53	0.47	0.50	1.63	1-1/8	0.94	4600
12SWFC	3/4	3/4	0.66	0.50	0.66	1.78	1-3/8	1.13	4300



Download CAD Drawing

Weld & Braze Adapters

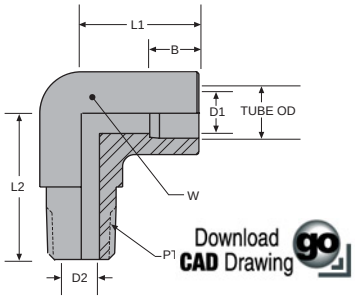
Socket Weld Male Elbow

SWME

Tube to Pipe

Connects fractional tube to female NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	B	D1	D2	L1	L2	W Wrench Flat	SS Working Pressure
4SWME	1/4	1/8	0.25	0.19	0.19	0.69	0.78	7/16	7800
4-4SWME	1/4	1/4	0.25	0.19	0.28	0.66	0.94	9/16	7500
6SWME	3/8	1/4	0.34	0.31	0.28	0.91	1.13	9/16	7500
6-6SWME	3/8	3/8	0.34	0.31	0.41	0.91	1.13	3/4	7300
8SWME	1/2	3/8	0.41	0.44	0.41	1.00	1.13	3/4	7200
8-8SWME	1/2	1/2	0.41	0.44	0.53	1.06	1.47	7/8	6200



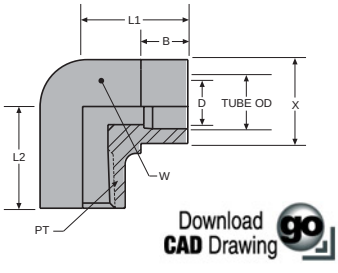
Socket Weld Female Elbow

SWFE

Tube to Pipe

Connects fractional tube to male NPT thread

SSP Part Number	Tube O.D.	PT Pipe Thread	B	D	L1	L2	W Wrench Flat	SS Working Pressure
4SWFE	1/4	1/8	0.25	0.19	0.69	0.66	9/16	6800
4-4SWFE	1/4	1/4	0.25	0.19	0.81	0.88	3/4	6200
6SWFE	3/8	1/4	0.34	0.31	0.91	0.88	3/4	7400
6-6SWFE	3/8	3/8	0.34	0.31	0.94	0.97	7/8	7400
8SWFE	1/2	3/8	0.41	0.44	1.03	0.97	7/8	5400
8-8SWFE	1/2	1/2	0.41	0.44	1.13	1.23	1-1/16	5400
10SWFE	5/8	1/2	0.47	0.50	1.16	1.23	1-1/16	5600
12SWFE	3/4	3/4	0.50	0.66	1.44	1.36	1-5/16	4600



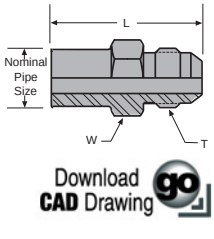
Weld/Braze Adapter for Male Pipe Stub

WM-J

Tube to Weld

Connects pipe butt weld to flared tube or female AN/SAE 37° Flared

SSP Part Number	Nominal IPS Pipe	Tube O.D.	L	T Thread	W Hex	SS Working Pressure	Monel Working Pressure
WM6-8J	3/8	1/2	1.63	3/4 - 16	13/16	6000	5610
WM8-8J	1/2	1/2	1.78	3/4 - 16	15/16	6000	5610
WM8-10J	1/2	5/8	1.88	7/8 - 14	15/16	6000	5610
WM8-12J	1/2	3/4	2.06	1-1/16 - 12	1-1/8	4800	4480
WM8-16J	1/2	1	2.10	1-5/16 - 12	1-3/8	4800	4480
WM12-12J	3/4	3/4	2.30	1-1/16 - 12	1-3/8	4800	4480
WM12-16J	3/4	1	2.31	1-5/16 - 12	1-3/8	4800	4480
WM16-16J	1	1	2.48	1-5/16 - 12	1-3/8	3600	3360
WM20-20J	1-1/4	1-1/4	2.90	1-5/8 - 12	1-11/16	3600	3360
WM20-24J	1-1/4	1-1/2	3.02	1-7/8 - 12	2	2400	2240
WM24-24J	1-1/2	1-1/2	3.14	1-7/8 - 12	2	2400	2240
WM32-32J	2	2	3.77	2-1/2 - 12	2-5/8	1800	1680

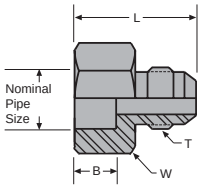


Weld Adapter for Pipe

W-J

Tube to Weld

Connects pipe to flared tube or female AN/SAE 37° Flared



Download CAD Drawing

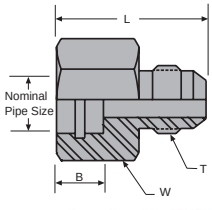
SSP Part Number	Nominal IPS Pipe	Tube O.D.	B	L	T Thread	W Hex	SS Working Pressure	Monel Working Pressure
W4-4J	1/4	1/4	0.38	1.10	7/16 - 20	7/8	6000	5610
W4-8J	1/4	1/2	0.38	1.20	3/4 - 16	1	6000	5610
W6-6J	3/8	3/8	0.69	1.18	9/16 - 18	1-1/16	6000	5610
W8-6J	1/2	3/8	0.50	1.24	9/16 - 18	1-1/4	6000	5610
W8-8J	1/2	1/2	0.50	1.34	3/4 - 16	1-1/4	6000	5610
W8-12J	1/2	3/4	0.50	1.54	1-1/16 - 12	1-1/4	4800	4480
W12-12J	3/4	3/4	0.56	1.64	1-1/16 - 12	1-1/2	4800	4480
W16-16J	1	1	0.63	1.77	1- 5/16 - 12	1-7/8	3600	3365
W16-20J	1	1-1/4	0.63	1.81	1- 5/8 - 12	2	3000	2805
W20-20J	1-1/4	1-1/4	0.69	1.88	1- 5/8 - 12	2	3000	2805
W24-24J	1-1/2	1-1/2	0.75	2.36	1- 7/8 - 12	2-1/2	2400	2240
W32-24J	2	1-1/2	0.88	2.38	1- 7/8 - 12	3	2400	2240
W32-32J	2	2	0.88	2.63	2- 1/2 - 12	3	1800	1685

Silbraze Adapter for Pipe Socket

WZ-J

Tube to Weld

Connects pipe to flared tube or female AN/SAE 37° Flared (Braze)



Download CAD Drawing

SSP Part Number	Nominal IPS Pipe	Tube O.D.	B	L	T Thread	W Hex	SS Working Pressures	Monel Working Pressures
WZ4-4J	1/4	1/4	0.38	1.24	7/16 - 20	7/8	6000	5610
WZ4-6J	1/4	3/8	0.38	1.24	9/16 - 18	7/8	6000	5610
WZ4-8J	1/4	1/2	0.38	1.34	3/4 - 16	7/8	6000	5610
WZ6-6J	3/8	3/8	0.47	1.31	9/16 - 18	1	6000	5610
WZ6-8J	3/8	1/2	0.47	1.41	3/4 - 16	1	6000	5610
WZ8-8J	1/2	1/2	0.56	1.83	3/4 - 16	1-1/2	6000	5610
WZ8-10J	1/2	5/8	0.56	1.93	7/8 - 14	1-1/2	6000	5610
WZ8-12J	1/2	3/4	0.56	2.04	1-1/16 - 12	1-1/2	5400	5049
WZ8-16J	1/2	1	0.56	2.08	1-5/16 - 12	1-7/16	3600	3360
WZ12-12J	3/4	3/4	0.69	2.16	1-1/16 - 12	1-5/8	4800	4480
WZ12-16J	3/4	1	0.69	2.21	1-5/16 - 12	1-3/4	3600	3360
WZ12-20J	3/4	1-1/4	0.69	2.26	1-5/8 - 12	1-3/4	3000	2805
WZ16-16J	1	1	0.81	2.40	1-5/16 - 12	2	3600	3360
WZ16-20J	1	1-1/4	0.81	2.44	1-5/8 - 12	2	3000	2805
WZ16-24J	1	1-1/2	0.81	2.57	1-7/8 - 12	2	2400	2240
WZ20-20J	1-1/4	1-1/4	0.95	2.76	1-5/8 - 12	2-7/16	3000	2805
WZ20-24J	1-1/4	1-1/2	0.95	2.88	1-7/8 - 12	2-1/2	2400	2245
WZ24-24J	1-1/2	1-1/2	1.07	3.02	1-7/8 - 12	2-5/8	2400	2245
WZ24-32J	1-1/2	2	1.07	3.27	2-1/2 - 12	3	1800	1685
WZ32-32J	2	2	1.25	3.64	2-1/2 - 12	3-1/4	1800	1685

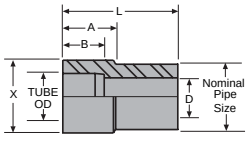
Weld & Braze Adapters

Socket Weld Male Adapter

SWA

Tube to Weld

Connects fractional tube to pipe socket



Download CAD Drawing

SSP Part Number	Nominal IPS Pipe	Tube O.D.	A	B	D Through Hole	L	X	SS Working Pressure
4SWA	1/8	1/4	0.25	0.25	0.19	0.88	0.50	9700
4-4SWA	1/4	1/4	0.25	0.25	0.19	0.97	0.50	9700
4-6SWA	3/8	1/4	0.25	0.25	0.19	1.06	0.50	7600
4-8SWA	1/2	1/4	0.25	0.25	0.19	1.28	0.50	6200
4-12SWA	3/4	1/4	0.25	0.25	0.19	1.39	0.50	5500
6SWA	1/4	3/8	0.34	0.34	0.30	0.97	0.63	7600
6-6SWA	3/8	3/8	0.34	0.34	0.31	1.13	0.63	7600
6-8SWA	1/2	3/8	0.34	0.34	0.31	1.33	0.63	6200
8SWA	3/8	1/2	0.41	0.41	0.44	1.13	0.81	7300
8-8SWA	1/2	1/2	0.41	0.41	0.44	1.36	0.81	6200
8-12SWA	3/4	1/2	0.41	0.41	0.44	1.47	0.81	5500
12SWA	3/4	3/4	0.50	0.47	0.66	1.41	1.13	5500
12-8SWA	1/2	3/4	0.50	0.47	0.53	1.50	1.13	5500
12-16SWA	1	3/4	0.50	0.47	0.66	1.66	1.13	5600
16SWA	1	1	0.56	0.50	0.91	1.56	1.38	5600

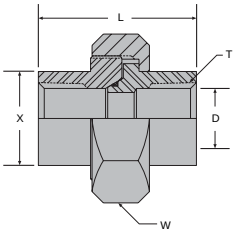
Koncentrik® Unions

Female Pipe Union

KUT

Union, Female Pipe

Connects male NPT thread



Download CAD Drawing

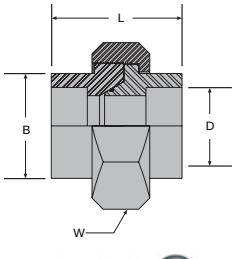
SSP Part Number	Pipe Size	T Pipe Thread	D Through Hole	L	W Hex	X	Teflon Ring Size	SS Working Pressure
1/8KUT	1/8	1/8 - 27	0.34	1.63	1-1/8	0.75	8TR	6950
1/4KUT	1/4	1/4 - 18	0.39	1.63	1-1/8	0.75	8TR	5700
3/8KUT	3/8	3/8 - 18	0.46	1.73	1-1/4	0.88	10TR	4600
1/2KUT	1/2	1/2 - 14	0.62	1.91	1-3/4	1.13	14TR	5250
3/4KUT	3/4	3/4 - 14	0.81	2.31	2	1.38	16TR	7200
1 KUT	1	1 - 11-1/2	1.04	2.91	2-1/2	1.81	20TR	5350
1-1/4KUT	1-1/4	1-1/4 - 11-1/2	1.38	3.67	3	2.25	24TR	5550
1-1/2KUT	1-1/2	1-1/2 - 11-1/2	1.61	3.80	3-5/16	2.50	28TR	4200
2KUT	2	2 - 11-1/2	2.06	4.05	3-3/4	3.00	36TR	4000

Pipe Socket Union

KUS

Union, Pipe Socket

Connects welded pipe



Download CAD Drawing

SSP Part Number	Pipe Size	B	D Through Hole	L	W Hex	Teflon Ring Size	SS Working Pressure
1/8KUS	1/8	0.38	0.26	1.88	1-1/8	8TR	6950
1/4KUS	1/4	0.38	0.36	1.72	1-1/4	10TR	6100
3/8KUS	3/8	0.44	0.49	1.99	1-5/8	12TR	6550
1/2KUS	1/2	0.50	0.62	1.78	1-7/8	14TR	6800
3/4KUS	3/4	0.56	0.82	2.20	2-1/4	16TR	6150
1KUS	1	0.63	1.05	2.28	2-1/2	20TR	5650
1-1/4KUS	1-1/4	0.69	1.38	2.72	3	24TR	5450
1-1/2KUS	1-1/2	0.75	1.61	2.81	3-5/16	28TR	4200
2KUS	2	0.88	2.07	3.00	3-3/4	36TR	4000

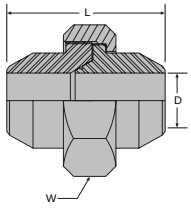
Pressure ratings are based on using Schedule 40 Pipe.

Pipe Butt Weld Union

KUB

Union, Butt Weld
Connects welded pipe

SSP Part Number	Pipe Size	D Through Hole	L	W Hex	Teflon Ring Size	SS Working Pressure
1/2KUB	1/2	0.62	2.69	2.00	14TR	7200
3/4KUB	3/4	0.82	2.50	2.25	16TR	8550
1KUB	1	1.05	3.03	2.50	20TR	8000
1-1/4KUB	1-1/4	1.38	3.38	3.00	24TR	7100
1-1/2KUB	1-1/2	1.61	3.68	3.31	28TR	4200
2KUB	2	2.07	4.72	3.81	36TR	6900



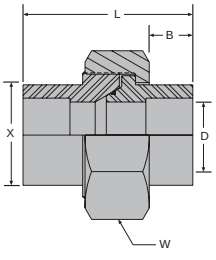
Download CAD Drawing

Tube Socket Union

KSWU

Union, Tube Socket
Connects fractional tubes

SSP Part Number	Tube Size	B	D Through Hole	L	W Hex	X	Teflon Ring Size	SS Working Pressure
2KSWU	1/8	0.15	0.06	0.87	3/4	0.37	4TR	8550
3KSWU	3/16	0.21	0.12	1.03	7/8	0.43	4TR	8500
4KSWU	1/4	0.28	0.18	1.03	7/8	0.50	5TR	8450
6KSWU	3/8	0.37	0.31	1.37	1	0.62	8TR	6300
8KSWU	1/2	0.46	0.43	1.62	1-1/8	0.75	10TR	6650
10KSWU	5/8	0.50	0.50	1.66	1-1/4	0.87	12TR	5700
12KSWU	3/4	0.56	0.65	1.81	1-5/8	1.06	14TR	6900
16KSWU	1	0.62	0.90	2.31	2	1.37	18TR	5500
20KSWU	1-1/4	0.65	1.06	2.31	2-1/4	1.62	20TR	4250
24KSWU	1-1/2	0.68	1.25	2.31	2-1/2	1.87	24TR	3800
32KSWU	2	0.75	1.81	2.81	3-5/16	2.50	32TR	3950



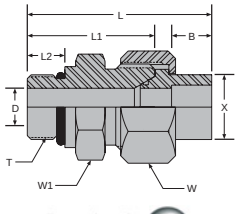
Download CAD Drawing

SAE Straight Thread Connector

AKSWGC

Union, O-Ring Boss
Connects fractional tube to female SAE/MS

SSP Part Number	Tube Size	T Thread	B	D	L	L1	L2	W Hex	W1 Hex	X	Teflon Ring Size	SS Working Pressure
A4KSWGC	1/4	7/16 - 20	0.28	0.18	1.50	1.06	0.36	7/8	3/4	0.50	5TR	4550
A6KSWGC	3/8	9/16 - 18	0.38	0.31	1.77	1.22	0.39	1	7/8	0.63	8TR	4550
A8KSWGC	1/2	3/4 - 16	0.47	0.42	2.15	1.38	0.40	1-1/8	1	0.75	10TR	4550
A10KSWGC	5/8	7/8 - 14	0.50	0.48	2.19	1.48	0.50	1-1/4	1-1/16	0.87	12TR	3600
A12KSWGC	3/4	1-1/16 - 12	0.56	0.61	2.36	1.56	0.54	1-5/8	1-3/8	1.06	14TR	3600
A16KSWGC	1	1-5/16 - 12	0.63	0.84	2.56	1.56	0.59	2	1-3/4	1.38	18TR	2900
A20KSWGC	1-1/4	1-5/8 - 12	0.66	1.06	2.84	1.78	0.59	2-1/4	2	1.62	20TR	2300
A24KSWGC	1-1/2	1-7/8 - 12	0.69	1.25	2.87	1.81	0.59	2-1/2	2-1/4	1.88	24TR	2200
A32KSWGC	2	2-1/2 - 12	0.75	1.81	3.27	1.97	0.59	3-5/16	2-7/8	2.50	32TR	2100



Download CAD Drawing

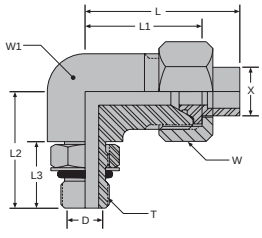
Pressure ratings are based on using Schedule 40 Pipe.

Koncentrik® Unions

SAE Straight Thread Elbow

AKSWGE

Union, O-Ring Boss
Connects fractional tube to female SAE/MS



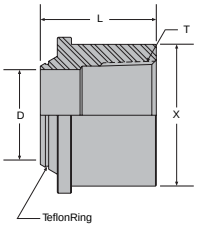
Download CAD Drawing

SSP Part Number	Tube Size	T Thread	D Through Hole	L	L1	L2	L3	X	W	W1	Teflon Ring Size	SS Working Pressure
A4KSWGE	1/4	7/16 - 20	0.19	1.44	1.00	1.16	0.70	0.50	7/8	3/4	5TR	4550
A6KSWGE	3/8	9/16 - 18	0.31	1.69	1.13	1.37	0.77	0.63	1	7/8	8TR	3600
A8KSWGE	1/2	3/4 - 16	0.42	2.00	1.28	1.63	0.88	0.75	1-1/8	1-1/16	10TR	3600
A10KSWGE	5/8	7/8 - 14	0.48	2.16	1.47	1.69	1.02	0.88	1-1/4	1-1/16	12TR	2900
A12KSWGE	3/4	1-1/16 - 12	0.61	2.28	1.50	1.91	1.16	1.06	1-5/8	1-5/16	14TR	2900
A16KSWGE	1	1-5/16 - 12	0.88	2.75	1.75	2.16	1.16	1.38	2	1-5/8	18TR	2300
A20KSWGE	1-1/4	1-5/8 - 12	1.06	3.00	1.88	2.25	1.28	1.63	2-1/4	1-7/8	20TR	1800

Female Pipe Thread Tail Piece

KUT-R

Union, Tailpiece



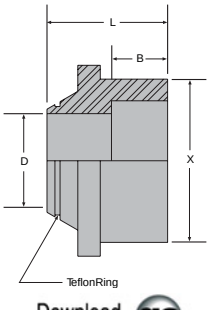
Download CAD Drawing

SSP Part Number	Pipe Size	T Thread	D Through Hole	L	X	Teflon Ring Size
1/8KUT-R	1/8	1/8-27	0.35	0.82	0.75	8TR
1/4KUT-R	1/4	1/4-18	0.39	0.83	0.75	8TR
3/8KUT-R	3/8	3/8-18	0.47	0.93	0.88	10TR
1/2KUT-R	1/2	1/2-14	0.62	1.06	1.12	14TR
3/4KUT-R	3/4	3/4-14	0.81	1.25	1.37	16TR
1KUT-R	1	1-11 1/2	1.05	1.65	1.81	20TR
1-1/4KUT-R	1-1/4	1 1/4-11 1/2	1.34	2.01	2.25	24TR
1-1/2KUT-R	1-1/2	1 1/2-11 1/2	1.61	2.05	2.50	28TR
2KUT-R	2	2-11 1/2	2.07	2.21	3.01	36TR

Pipe Socket Tail Piece

KUS-R

Union, Tailpiece



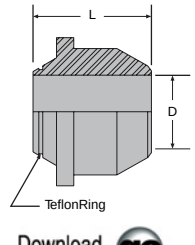
Download CAD Drawing

SSP Part Number	Pipe Size	B	D Through Hole	L	X	Teflon Ring Size
1/8KUS-R	1/8	0.38	0.27	0.83	0.75	8TR
1/4KUS-R	1/4	0.38	0.36	0.94	0.87	10TR
3/8KUS-R	3/8	0.44	0.49	0.96	1.00	12TR
1/2KUS-R	1/2	0.50	0.62	1.06	1.25	14TR
3/4KUS-R	3/4	0.56	0.81	1.12	1.50	16TR
1KUS-R	1	0.63	1.05	1.34	1.82	20TR
1-1/4KUS-R	1-1/4	0.68	1.27	1.37	2.25	24TR
1-1/2KUS-R	1-1/2	0.75	1.61	1.56	2.50	28TR
2KUS-R	2	0.87	2.08	1.58	3.00	36TR

Butt Weld Tail Piece

KUB-R

Union, Tailpiece



Download CAD Drawing

SSP Part Number	Pipe Size	D	L	Teflon Ring Size
1/2KUB-R	1/2	0.62	1.37	14TR
3/4KUB-R	3/4	0.81	1.62	16TR
1KUB-R	1	1.04	1.71	20TR
1-1/4KUB-R	1-1/4	1.38	1.87	24TR
1-1/2KUB-R	1-1/2	1.61	2.00	28TR
2KUB-R	2	2.06	2.08	36TR

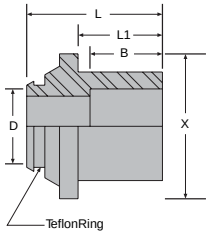
Pressure ratings are based on using Schedule 40 Pipe.

Tube Socket Tail Piece

KSWU-R

Union, Tailpiece

SSP Part Number	Tube Size	B	D	L	L1	X	Teflon Ring Size
2KSWU-R	1/8	0.25	0.09	0.46	0.25	0.37	4TR
3KSWU-R	3/16	0.25	0.12	0.46	0.25	0.37	4TR
4KSWU-R	1/4	0.28	0.26	0.53	0.31	0.43	5TR
6KSWU-R	3/8	0.37	0.31	0.70	0.43	0.56	8TR
8KSWU-R	1/2	0.46	0.43	0.83	0.50	0.75	10TR
10KSWU-R	5/8	0.50	0.50	0.89	0.76	0.87	12TR
12KSWU-R	3/4	0.57	0.57	1.06	0.68	1.12	14TR
16KSWU-R	1	0.64	0.90	1.18	0.78	1.37	18TR
20KSWU-R	1-1/4	0.62	1.06	1.31	0.71	1.60	20TR
24KSWU-R	1-1/2	0.68	1.25	1.35	0.78	1.80	24TR
32KSWU-R	2	0.75	1.84	1.66	1.00	2.50	32TR



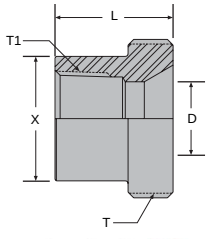
Download CAD Drawing

Female Pipe Thread Threaded Piece

KUT-T

Union, Threaded Piece

SSP Part Number	Pipe Size	T Thread	T1 Pipe Thread	D Through Hole	L	X
1/8KUT-T	1/8	1 - 14	1/8 - 27	0.35	0.93	0.75
1/4KUT-T	1/4	1 - 14	1/4 - 18	0.39	0.94	0.75
3/8KUT-T	3/8	1-1/16 - 14	3/8 - 18	0.47	0.93	0.87
1/2KUT-T	1/2	1-1/2 - 12	1/2 - 14	0.72	1.00	1.12
3/4KUT-T	3/4	1-3/4 - 12	3/4 - 14	0.81	1.31	1.37
1KUT-T	1	2-1/4 - 12	1 - 11-1/2	1.05	1.56	1.81
1-1/4KUT-T	1-1/4	2-5/8 - 12	1-1/4 - 11-1/2	1.34	1.94	2.25
1-1/2KUT-T	1-1/2	2-7/8 - 12	1-1/2 - 11-1/2	1.61	2.00	2.75
2KUT-T	2	3-3/8 - 12	2 - 11-1/2	2.07	2.12	3.00



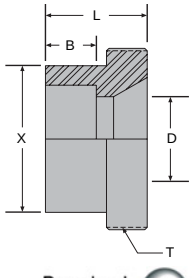
Download CAD Drawing

Pipe Socket Threaded Piece

KUS-T

Union, Threaded Piece

SSP Part Number	Pipe Size	T Thread	B	D Through Hole	L	X
1/8KUS-T	1/8	1 - 14	0.37	0.27	0.93	0.75
1/4KUS-T	1/4	1-1/16 - 14	0.37	0.36	0.93	0.88
3/8KUS-T	3/8	1-3/8 - 12	0.43	0.49	1.00	1.00
1/2KUS-T	1/2	1-5/8 - 12	0.50	0.62	1.00	1.25
3/4KUS-T	3/4	2 - 12	0.56	0.81	1.12	1.50
1KUS-T	1	2-1/4 - 12	0.62	1.05	1.25	1.82
1-1/4KUS-T	1-1/4	2-5/8 - 12	0.68	1.27	1.31	2.25
1-1/2KUS-T	1-1/2	2-7/8 - 12	0.75	1.61	1.50	2.50
2KUS-T	2	3-3/8 - 12	0.87	2.08	1.50	3.00



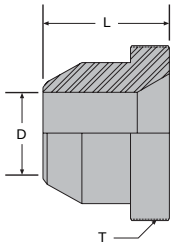
Download CAD Drawing

Butt Weld Threaded Piece

KUB-T

Union, Threaded Piece

SSP Part Number	Pipe Size	D	L	T Thread
1/2KUB-T	1/2	0.62	1.50	1-3/4 - 12
3/4KUB-T	3/4	0.81	1.62	2 - 12
1KUB-T	1	1.04	1.62	2-1/4 - 12
1-1/4KUB-T	1-1/4	1.38	1.87	2-5/8 - 12
1-1/2KUB-T	1-1/2	1.61	1.94	2-7/8 - 12
2KUB-T	2	1.61	2.08	3-3/8 - 12



Download CAD Drawing

Pressure ratings are based on using Schedule 40 Pipe.

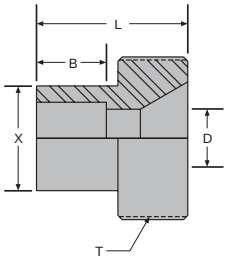
Koncentrik® Unions

Tube Socket Threaded Piece

KSWU-T

Union, Threaded Piece

SSP Part Number	T Thread	B	D	L	X
2KSWU-T	5/8 - 18	0.15	0.09	0.50	0.37
3KSWU-T	5/8 - 18	0.21	0.12	0.50	0.37
4KSWU-T	3/4 - 16	0.28	0.18	0.62	0.43
6KSWU-T	7/8 - 14	0.37	0.31	0.81	0.56
8KSWU-T	1 - 14	0.46	0.43	0.93	0.75
10KSWU-T	1-1/16 - 14	0.50	0.50	0.93	0.87
12KSWU-T	1-1/2 - 12	0.57	0.65	1.00	1.12
16KSWU-T	1-3/4 - 12	0.64	0.90	1.31	1.38
20KSWU-T	2 - 12	0.62	1.06	1.22	1.60
24KSWU-T	2-1/4 - 12	0.68	1.25	1.34	1.87
32KSWU-T	2-7/8 - 12	0.75	1.84	1.50	2.50



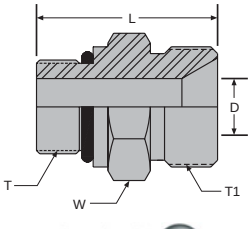
Download CAD Drawing

SAE Straight Thread Connector Body

KSWGC

Union, Threaded Piece
Connects fractional tube to SAE/MS boss

SSP Part Number	Tube Size	T Thread	D	L	T1 Thread	W Hex
4KSWGC	1/4	7/16-20	0.18	1.17	3/4 - 16	13/16
6KSWGC	3/8	9/16-18	0.31	1.36	7/18 - 14	1
8KSWGC	1/2	3/4-16	0.43	1.48	1 - 14	1-1/16
10KSWGC	5/8	7/8-14	0.50	1.59	1-1/16 - 14	1-1/8
12KSWGC	3/4	1 1/16-12	0.65	1.75	1-1/2 - 12	1-5/8
16KSWGC	1	1 5/16-12	0.84	1.84	1-3/4 - 12	1-7/8
20KSWGC	1-1/4	1 5/8-12	1.06	1.98	2 - 12	2-1/8
24KSWGC	1-1/2	1 7/8-12	1.25	2.00	2-1/4 - 12	2-3/8
32KSWGC	2	2 1/2-12	1.81	2.13	2-7/8 - 12	3



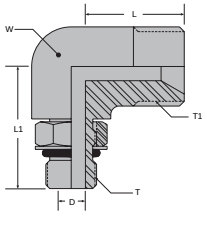
Download CAD Drawing

SAE Straight Thread Elbow Body

KSWGE

Union, Threaded Piece
Connects fractional tube to female SAE/MS

SSP Part Number	Tube Size	T Thread	T1 Thread	D Through Hole	L	L1	W Wrench Flat	Teflon Ring Size
4KSWGE	1/4	7/16 - 20	3/4 - 16	0.18	1.18	1.25	1-1/8	5TR
6KSWGE	3/8	9/16 - 18	7/8 - 14	0.31	1.25	1.35	1-5/16	8TR
8KSWGE	1/2	3/4 - 16	1 - 14	0.42	1.50	1.54	1-5/8	10TR
10KSWGE	5/8	7/8 - 14	1-1/16 - 14	0.50	1.50	1.70	1-5/8	12TR
12KSWGE	3/4	1-1/16 - 12	1-1/2 - 12	0.65	1.70	2.25	1-7/8	14TR
16KSWGE	1	1-5/16 - 12	1-3/4 - 12	0.84	1.75	2.25	1-7/8	18TR
20KSWGE	1-1/4	1-5/8 - 12	2 - 12	1.06	1.90	2.25	2-3/8	20TR



Download CAD Drawing

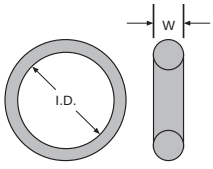
Pressure ratings are based on using Schedule 40 Pipe.

Teflon Snap Ring

TR

Component

SSP Part Number	Diameter	I.D.	W Width
5TR	0.32	0.27	0.04
8TR	0.50	0.43	0.06
10TR	0.59	0.51	0.06
12TR	0.72	0.64	0.06
14TR	0.86	0.78	0.06
16TR	0.99	0.92	0.06
18TR	1.19	1.12	0.06
20TR	1.28	1.18	0.06
24TR	1.53	1.45	0.06
28TR	1.90	1.79	0.06
32TR	2.08	1.98	0.06
36TR	2.29	2.21	0.06



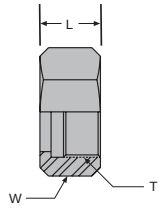
Download CAD Drawing

Union Nut

KUN

Component

SSP Part Number	T Thread	W Hex	L
KUN1	3/4 - 16	7/8	0.50
KUN2	7/8 - 14	1.00	0.62
KUN3	1 - 14	1-1/8	0.64
KUN4	1-1/16 - 14	1-1/4	0.68
KUN5	1-3/8 - 12	1-5/8	0.68
KUN6	1-1/2 - 12	1-3/4	0.68
KUN7	1-5/8 - 12	1-7/8	0.68
KUN8	1-3/4 - 12	2	0.87
KUN9	2 - 12	2-1/4	1.00
KUN10	2-1/4 - 12	2-1/2	1.00
KUN11	2-5/8 - 12	3	1.00
KUN12	2-7/8 - 12	3-1/4	1.00
KUN14	3-3/8 - 12	3-3/4	1.00



Download CAD Drawing

Pressure ratings are based on using Schedule 40 Pipe.

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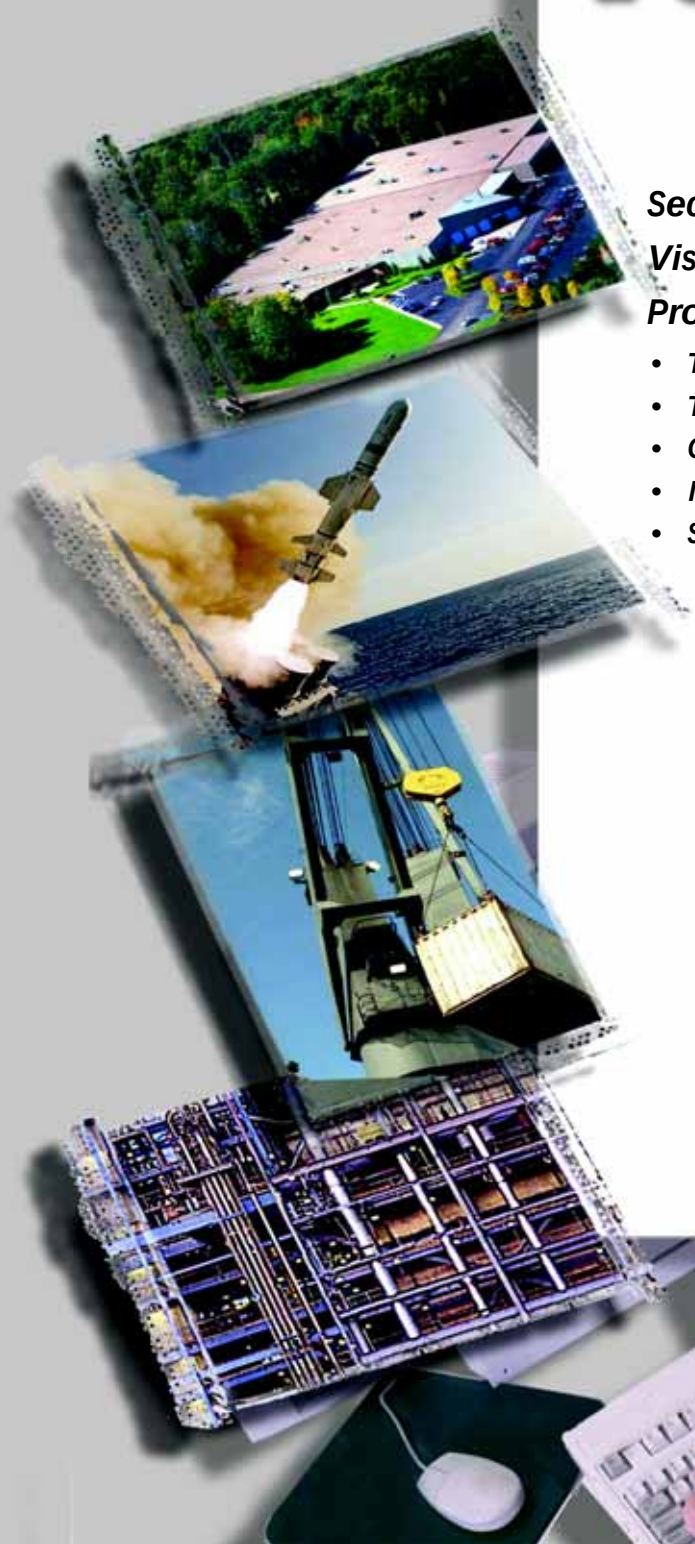
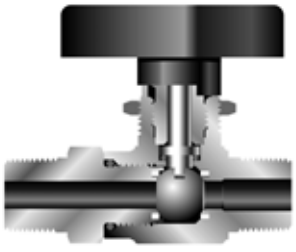
Valves



Two-Way Ball Valves

5-BV2



Manually operated two-way ball valves provide quick ¼ turn on-off control of fluids in process systems. Valve body and seat material options provide a broad range of temperature and pressures at which the valve may be used.

Features

- Directional Handle indicates flow direction
- Panel Mountable
- 90 degree actuation
- Straight through flow path
- Micro finished ball provides positive seal
- Free floating ball design provides compensation for seat wear for repetitive sealing
- Blow-out proof ball and stem
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Material Designator and the desired Seat Material Designator as a suffix to the basic ordering number.

Part Number Configuration

Basic Ordering Number	-	Seat Material Designator	-	Material Designator

Material Designators

Brass-No suffix required

316 Stainless Steel- 316

Seat Material

PTFE-No suffix required (standard Seat Material)

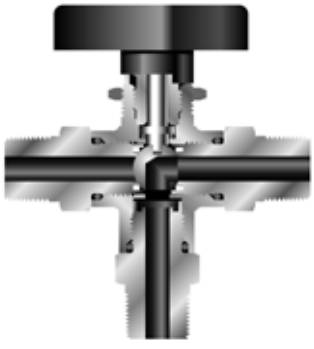
Kel-F- K

Specifications

	Stainless Steel		Brass	
Temp Rating	PTFE Seats	-40°F to 350°F	PTFE Seats	-40°F to 350°F
	Kel-F Seats	-40°F to 350°F	Kel-F Seats	-40°F to 350°F
Pressure Rating @ 100°F	PTFE Seats 1500 psi Kel-F Seats 5000 psi		PTFE Seats 1500 psi Kel-F Seats 3000 psi	

Three-Way Ball Valves

5-BV3



Manually operated three-way ball valves accept media through the bottom port and allow selection of flow through a selected port. Valve body, and Seat Material options provide a broad range of temperatures and pressures at which the valve may be used.

Features

- Directional handle indicates flow direction
- Panel mountable
- 180 degree actuation
- Micro finished ball provides positive seal
- Free floating ball design provides compensation for seat wear for repetitive sealing
- Blow-out proof ball and stem
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Material Designator and the desired Seat Material Designator as a suffix to the basic ordering number.

Part Number Configuration

Basic Ordering Number	-	Seat Material Designator	-	Material Designator

Material Designators

Brass-No suffix required

316 Stainless Steel- 316

Seat Material

PTFE-No suffix required (standard Seat Material)

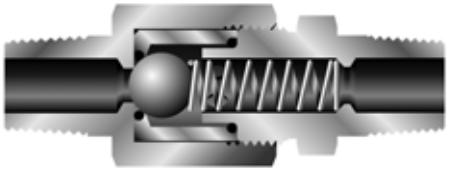
Kel-F- K

Specifications

	Stainless Steel		Brass	
Temp Rating	PTFE Seats	-40°F to 350°F	PTFE Seats	-40°F to 350°F
	Kel-F Seats	-40°F to 350°F	Kel-F Seats	-40°F to 350°F
Pressure Rating @ 100°F	PTFE Seats 1500 psi Kel-F Seats 5000 psi		PTFE Seats 1500 psi Kel-F Seats 3000 psi	

Check Valves

5-CV



Check Valves are designed for uni-directional flow control of fluids in process systems.

Features

- O-ring seat for tight shut-off
- Minimum flow resistance
- Cracking Pressures include: 1/3, 1, 5, 10, 15, 25, 50 psi
- Micro finished ball provides positive seal

Ordering Information

To order add the desired Nominal Spring Size Designator after the basic ordering number and prior to the Material Designator.

Part Number Configuration

Basic Ordering Number	-	Nominal Spring Size	-	Material Designator

Material Designator

Brass- No suffix required

Stainless Steel- 316

Specifications

	Stainless Steel
Temp Rating	-15°F to 350°F
Pressure Rating @ 100°F	6000 psig

Needle Valves

5-NV

Needle Valves are designed for positive shut-off and regulation control of media in process systems. A variety of end connections, temperature ranges, and pressures provide the user the utmost in control and flexibility.

Features

- Straight and angle patterns available
- Panel mountable
- Choice of two stem types:
  - All metal, blunt stem tip (Vee)
  - Kel-F stem tip (Soft seat)
- Available in 316 Stainless Steel and Brass
- Optional color coded handles
- Stainless Steel T-bar and knurled Stainless Steel handles available

Ordering Information

To order, add the Material Designator and desired Stem Type Designator as a suffix and Angle Pattern Designator as a prefix to the basic ordering number.

Part Number Configuration

Angle Pattern Designator	-	Basic Ordering Number	-	Stem Type Designator	-	Material Designator

Material Designators

Brass- No suffix required

Stainless Steel- 316

Stem Designator

Metal Stem Tip (Vee)- No suffix required

Kel-F Stem Tip (Soft Seat)- K

Angle Pattern Designator

Straight Pattern- No prefix required

Angle Pattern- A (prefix to basic ordering number)

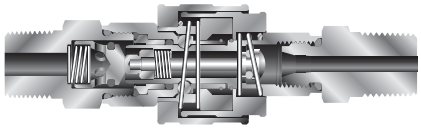
Specifications

	Stainless Steel		Brass	
Temp Rating	Metal Stem	-40°F to 450°F	Metal Stem	-40°F to 450°F
	Kel-F Stem Point	-40°F to 200°F	Kel-F Stem Point	-40°F to 200°F
Pressure Rating @ 100°F	6000 psig		3000 psig	

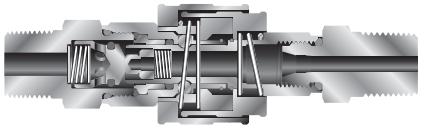
Safe T Couplings

5-STC

Safety Couplings are designed to provide a quick and convenient way to connect and disconnect fluid lines. STC Series couplings are keyed and color coded for safety and positive identification of fluid or pressure lines. Different colored-keyed quick-connects will not interchange with any other STC keyed couplings. If an attempt is made to couple unlike keys, the valve system will not open. The keyed and color-coded STC assists users to prevent accidental connection of non-compatible media and pressure lines in multi line systems and provides a mechanical lockout in a variety of colors, each numbered and keyed exclusively to prevent interchangeability in critical applications.



DESO



SESO

Features

- Viton O-Rings provide leak tight sealing
- The push-to-connect design means no tools are required.
- Both DESO (double end shut-off) and SESO (single end shut off) Stem designs.
- DESO design features a poppet valve in both stem and body, SESO design in body only.

Ordering Information

FloLok Safe T Couplings are ordered by specifying part numbers as listed below. The followeing explains the part numbering system:

5-STC	-	4	-	B	-	4	-	FC	-	316	-	K1
Safe T Coupler		**Series Size** (Chart A)		**Configuration** (Chart B)		**Connector Size** (Chart C)		**End Connection Type** (Chart D)		**Material** (Chart E)		**Key Color** (Chart F)

Chart A Series Size
4
6
8

Chart B Configuration	
B	Body
D	Stem (DESO)
C	Stem (SESO)

Chart C Connector Size	
4	1/4
6	3/8
8	1/2

Chart D Connection Type	
FC	Female NPT
C	Male NPT
J	37° AN

Chart E Material	
B	Brass
316	Stainless Steel

Chart F Key Color	
K1	Black
K2	Orange
K3	Green
K4	Yellow
K5	Blue
K6	White
K7	Purple
K8	Brown

Specifications

Pressure Ratings (psig)						
	316 SS			Brass		
Series	5-STC4	5-STC6	5-STC8	5-STC4	5-STC6	5-STC8
Coupled	3000	1500	750	2000	1000	500
Uncoupled	3000	1500	750	2000	1000	500
Connect Under Pressure	250	250	250	250	250	250

Maximum Flow Rate (GPM)		
5-STC4	5-STC6	5-STC8
4	6	10

Visual Index

Valves

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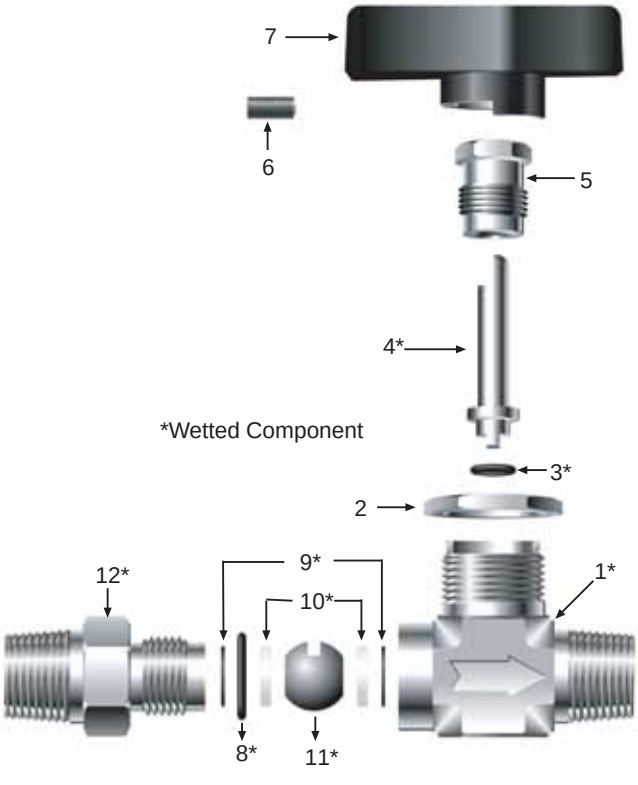
Two-Way Ball Valves

5-BV2

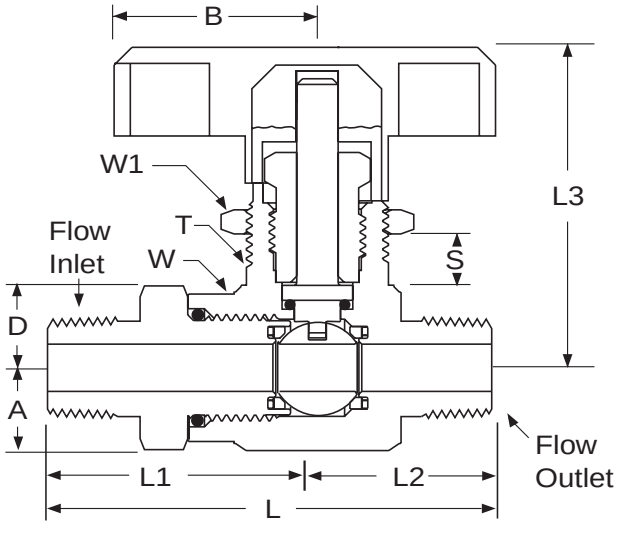


Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	316 Stainless Steel	Brass
3	Stem O-ring*	Viton	Viton
4	Stem*	316 Stainless Steel	316 Stainless Steel
5	Bonnet	316 Stainless Steel	Brass
6	Handle Set Screw	Stainless Steel	Stainless Steel
7	Handle^	Nylon	Nylon
8	Connector O-ring*	Viton	Viton
9	Back-up Rings*	Viton	Viton
10	Seats*	PTFE / Kel-F	PTFE / Kel-F
11	Ball*	316 Stainless Steel	316 Stainless Steel
12	Connector*	316 Stainless Steel	Brass

* Wetted Components
^ Handle contains brass insert for extra strength and wear resistance

Two-Way Ball Valves

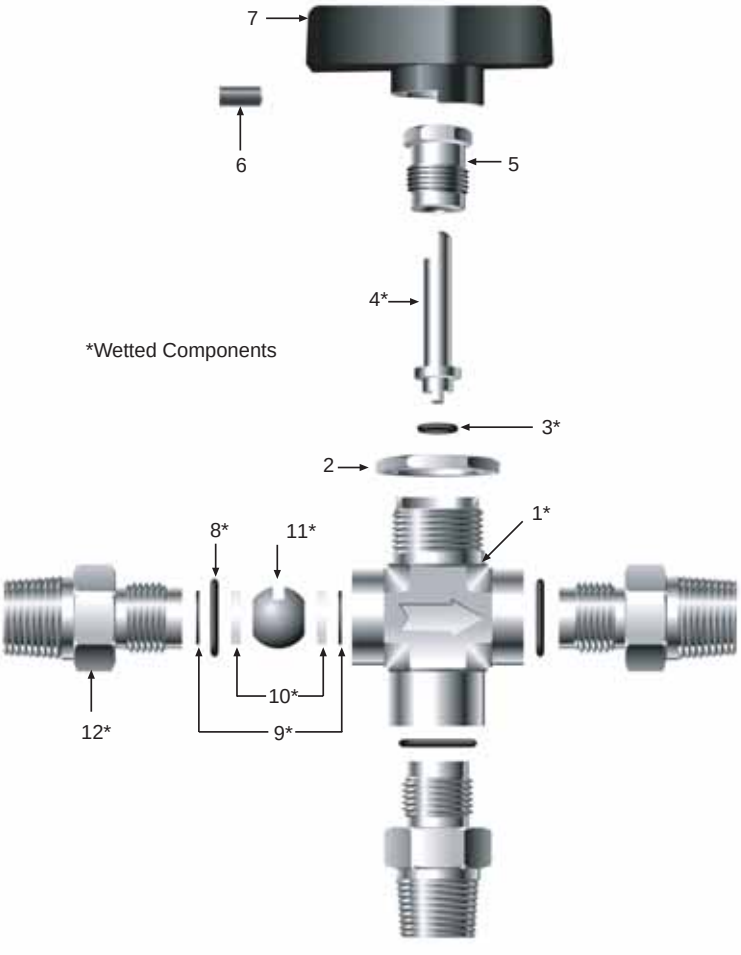
5-BV2



2 Way Ball Valves																
End Connection			Basic Ordering Number	Orifice	Dimensions											
					L	L1	L2	A	D	B	S	T	L3	W	W1
Type	Inlet Size	Outlet Size		In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Female NPT	1/8	1/8	5-BV2FC2FC2	0.125	2.02	1.15	0.88	0.40	0.38	0.94	0.25	19/32	1.27	11/16	11/16
	1/4	1/4	5-BV2FC4FC4	0.250	2.64	1.58	1.06	0.44	0.44	1.06	0.25	25/32	1.70	7/8	7/8
	3/8	3/8	5-BV2FC6FC6	0.437	3.45	2.01	1.44	0.75	0.75	1.51	0.25	1 1/32	2.21	1 1/2	1 1/2
	1/2	1/2	5-BV2FC8FC8	0.437	3.42	2.01	1.41	0.75	0.75	1.51	0.25	1 1/32	2.21	1 1/2	1 1/2
Female NPT to Male NPT	1/8	1/8	5-BV2FC2MC2	0.125	1.93	1.15	0.78	0.40	0.38	0.94	0.25	19/32	1.27	11/16	11/16
	1/4	1/4	5-BV2FC4MC4	0.250	2.64	1.58	1.06	0.44	0.44	1.06	0.25	25/32	1.70	7/8	7/8
Male NPT	1/8	1/8	5-BV2MC2MC2	0.125	1.83	1.05	0.78	0.40	0.38	0.94	0.25	19/32	1.27	11/16	11/16
	1/4	1/4	5-BV2MC4MC4	0.250	2.64	1.58	1.06	0.44	0.44	1.06	0.25	25/32	1.70	7/8	7/8
	3/8	3/8	5-BV2MC6MC6	0.250	2.71	1.58	1.13	0.44	0.44	1.06	0.25	25/32	1.70	7/8	7/8
	1/2	1/2	5-BV2MC8MC8	0.437	3.45	2.01	1.44	0.75	0.75	1.51	0.25	1 1/32	2.21	1 1/2	1 1/2
Male NPT to Female NPT	1/4	1/4	5-BV2MC4FC4	0.250	2.64	1.58	1.06	0.44	0.44	1.06	0.25	25/32	1.70	7/8	7/8
	3/8	3/8	5-BV2MC6FC6	0.437	3.06	1.81	1.25	0.75	0.75	1.51	0.25	1 1/32	2.21	1 1/2	1 1/2
	1/2	1/2	5-BV2MC8FC8	0.437	3.42	2.01	1.41	0.75	0.75	1.51	0.25	1 1/32	2.21	1 1/2	1 1/2

Three-Way Ball Valves

5-BV3

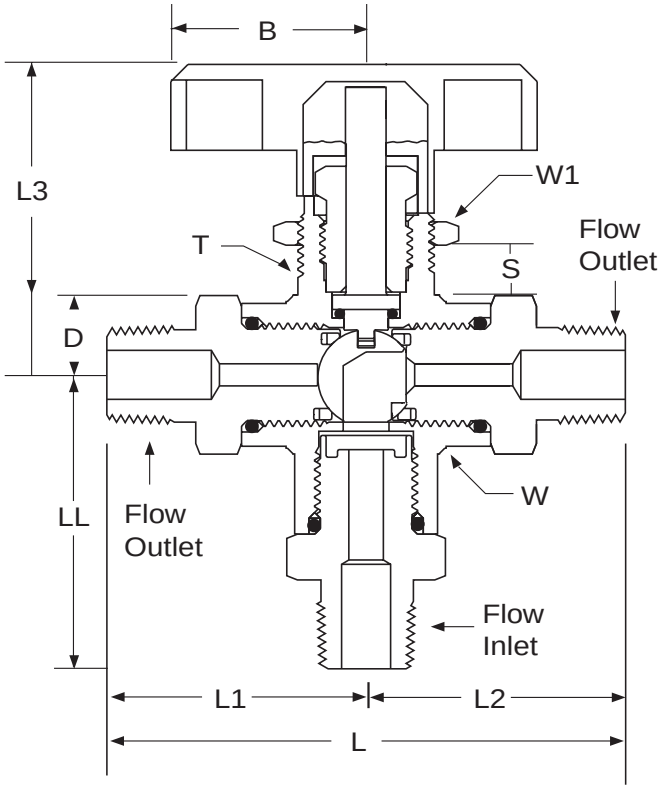


Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	316 Stainless Steel	Brass
3	Stem O-ring*	Viton	Viton
4	Stem*	316 Stainless Steel	316 Stainless Steel
5	Bonnet	316 Stainless Steel	Brass
6	Handle Set Screw	Stainless Steel	Stainless Steel
7	Handle^	Nylon	Nylon
8	Connector O-ring*	Viton	Viton
9	Back-up Rings*	Viton	Viton
10	Seats*	PTFE / Kel-F	PTFE / Kel-F
11	Ball*	316 Stainless Steel	316 Stainless Steel
12	Connector*	316 Stainless Steel	Brass

* Wetted Components
^ Handle contains brass insert for extra strength and wear resistance

Three-Way Ball Valves

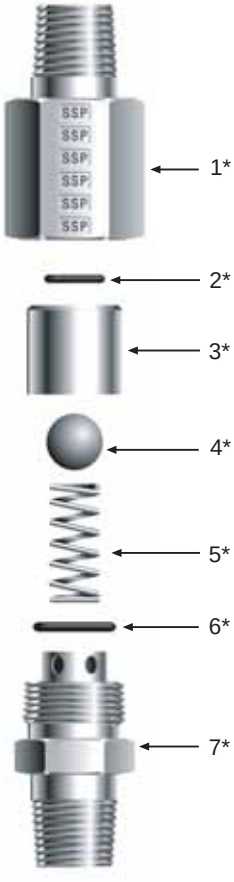
5-BV3



3 Way Ball Valves																
End Connection			Basic Ordering Number	Orifice	Dimensions											
					L	L1	L2	L3	LL	D	B	S	T	W	W1
Type	Inlet Size	Outlet Size		In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Female NPT	1/8	1/8	5-BV3FC2FC2FC2	0.125	2.30	1.15	1.15	1.27	1.33	0.38	0.94	0.25	19/32	11/16	11/16
	1/4	1/4	5-BV3FC4FC4FC4	0.250	3.16	1.58	1.58	1.70	1.77	0.44	1.06	0.25	25/32	7/8	7/8
	3/8	3/8	5-BV3FC6FC6FC6	0.437	4.03	2.01	2.01	2.21	2.41	0.75	1.51	0.25	1 1/32	1 1/4	1 1/4
	1/2	1/2	5-BV3FC8FC8FC8	0.437	4.03	2.01	2.01	2.21	2.41	0.75	1.51	0.25	1 1/32	1 1/4	1 1/4
Male NPT	1/8	1/8	5-BV3MC2MC2MC2	0.125	2.10	1.05	1.05	1.27	1.22	0.38	0.94	0.25	19/32	11/16	11/16
	1/4	1/4	5-BV3MC4MC4MC4	0.250	3.16	1.58	1.58	1.70	1.77	0.44	1.06	0.25	25/32	7/8	7/8
	3/8	3/8	5-BV3MC6MC6MC6	0.250	3.16	1.58	1.58	1.70	1.77	0.44	1.06	0.25	25/32	7/8	7/8
	1/2	1/2	5-BV3MC8MC8MC8	0.437	4.03	2.01	2.01	2.21	2.41	0.75	1.51	0.25	1 1/32	1 1/4	1 1/4

Check Valves

5-CV



*Wetted Component

Materials of Construction		
#	Component	Stainless Steel
1	Body*	316 Stainless Steel
2	O-ring*	Viton+
3	Ball Cage*	316 Stainless Steel
4	Ball*	316 Stainless Steel
5	Spring*	316 Stainless Steel
6	O-ring*	Viton+
7	Stem*	316 Stainless Steel

* Wetted Component
\+ Viton Standard; optional materials upon request

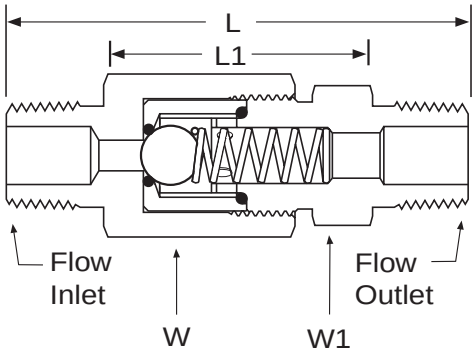
Designator	Cracking[1] and Reseal[2] Pressures @ 70°F	
Nominal Spring Size	Cracking Pressure Range	Reseal Pressure
1/3	0 - 1	6
1	0 - 3	6
5	3 - 8	2
10	7 - 15	3
15	10 - 20	15
25	20 - 30	17
50	40 - 60	45

Valves that are not acuated for a period of time may crack initially at pressures higher than the above cracking ranges.

1. Cracking pressure - the upstream pressure at which the first indication of flow occurs.
2. Reseal pressure - the upstream pressure at whch there is no indication of flow.

Check Valves

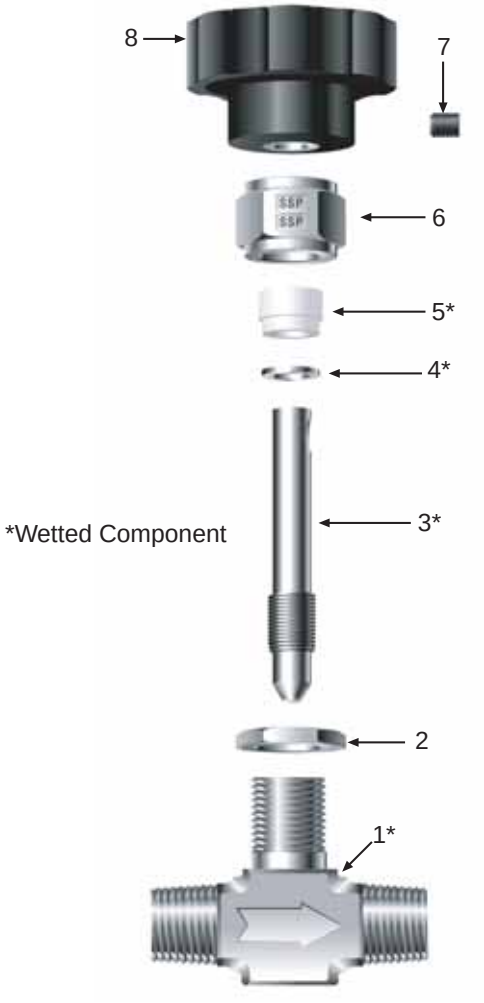
5-CV



Check Valves								
End Connection			Basic Ordering Number	Orifice	Dimensions			
					L	L1	W	W1
Type	Inlet Size	Outlet Size		In.	In.	In.	In.	In.
Female NPT	1/8	1/8	5-CVFC2FC2	0.188	2.33	-	3/4	5/8
	1/4	1/4	5-CVFC4FC4	0.188	2.7	-	3/4	3/4
	3/8	3/8	5-CVFC6FC6	0.282	2.92	-	7/8	7/8
	1/2	1/2	5-CVFC8FC8	0.282	3.33	-	1 1/8	1 1/8
Male NPT to Female NPT	1/8	1/8	5-CVMC2FC2	0.188	2.33	-	3/4	5/8
	1/4	1/4	5-CVMC4FC4	0.188	2.58	-	3/4	3/4
	3/8	3/8	5-CVMC6FC6	0.282	2.92	-	7/8	7/8
	1/2	3/8	5-CVMC8FC6	0.282	2.92	-	7/8	7/8
	1/2	1/2	5-CVMC8FC8	0.282	3.05	-	7/8	1 1/8
Male NPT	1/8	1/8	5-CVMC2MC2	0.188	2.33	1.55	3/4	5/8
	1/4	1/4	5-CVMC4MC4	0.188	2.33	1.19	3/4	5/8
	3/8	3/8	5-CVMC6MC6	0.282	2.79	1.65	7/8	3/4
	1/2	1/2	5-CVMC8MC8	0.282	2.92	1.42	7/8	7/8
Female NPT to Male NPT	1/8	1/8	5-CVFC2MC2	0.188	2.33	-	3/4	5/8
	1/4	1/8	5-CVFC4MC2	0.188	2.46	-	3-4	5/8
	1/4	1/4	5-CVFC4MC4	0.188	2.45	-	3/4	5/8
	3/8	3/8	5-CVFC6MC6	0.282	2.79	-	7/8	3/4
	1/2	1/2	5-CVFC8MC8	0.282	3.20	-	1 1/8	7/8

Needle Valves

5-NV

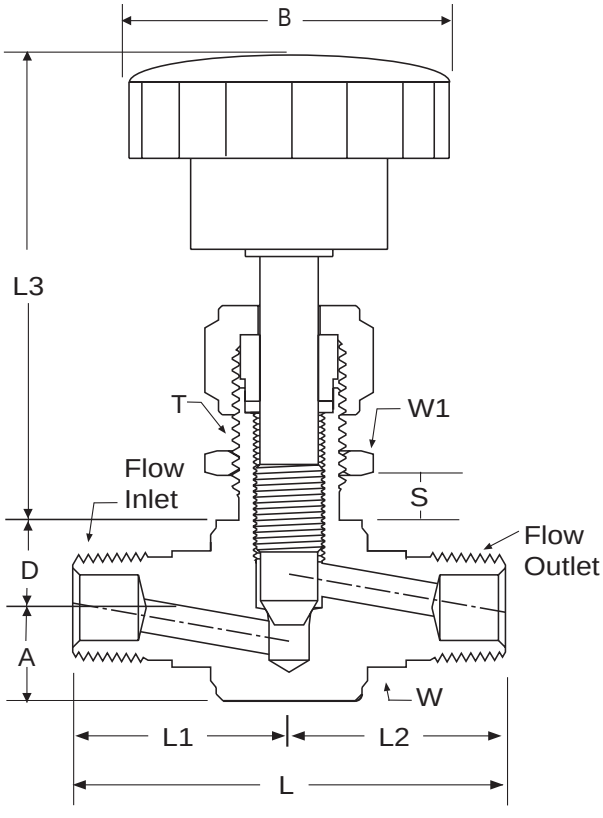


Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	Stainless Steel	Brass
3	Stem*	316 Stainless Steel	316 Stainless Steel
4	Packing Support*	316 Stainless Steel	316 Stainless Steel
5	Packing*	PTFE	PTFE
6	Packing Nut	316 Stainless Steel	Brass
7	Set Screw	Stainless Steel	Stainless Steel
8	Handle^	Nylon	Nylon

* Wetted Components
^ Handle contains brass insert for extra strength and wear resistance

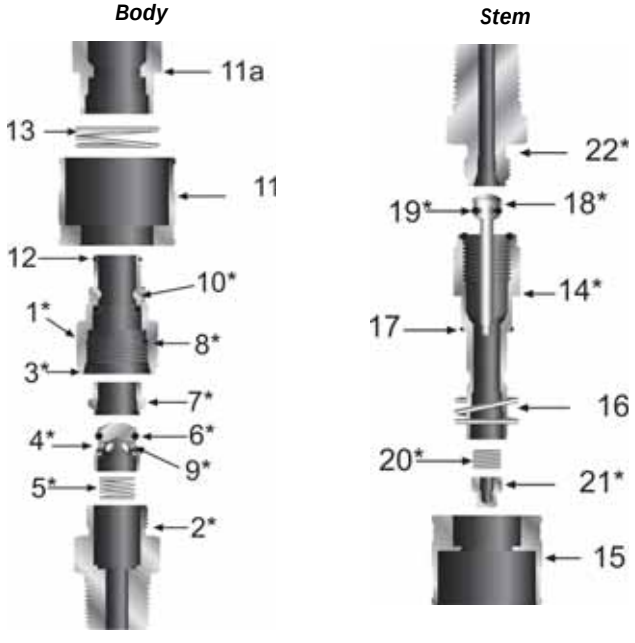
Needle Valves

5-NV



Needle Valves																
End Connection			Basic Ordering Number	Orifice	Dimensions											
					L	L1	L2	A	D	B	S	T	L3	W	W1
Type	Inlet Size	Outlet Size		In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Female NPT	1/8	1/8	5-NVFC2FC2-063	0.063	1.82	0.90	0.90	0.37	0.40	1.37	0.38	2.55	0.53	11/16	11/16
	1/8	1/8	5-NVFC2FC2-172	0.172	1.82	0.90	0.90	0.37	0.40	1.37	0.38	2.55	0.53	11/16	11/16
	1/4	1/4	5-NVFC4FC4-063	0.063	2	1	1	0.43	0.43	1.37	0.38	2.61	0.53	7/8	7/8
	1/4	1/4	5-NV4FC4FC4-172	0.172	2	1	1	0.43	0.43	1.37	0.38	2.61	0.53	7/8	7/8
	1/4	1/4	5-NV4FC4FC4-201	0.201	2	1	1	0.43	0.43	1.37	0.38	2.61	0.53	7/8	7/8
	3/8	3/8	5-NVFC6FC6-250	0.250	2.5	1.25	1.25	0.68	0.74	1.74	0.38	3.36	0.78	1 1/2	1 1/2
	3/8	3/8	5-NVFC6FC6-312	0.312	2.5	1.25	1.25	0.68	0.74	1.74	0.38	3.36	0.78	1 1/2	1 1/2
	3/8	3/8	5-NVFC6FC6-343	0.343	2.5	1.25	1.25	0.68	0.74	1.74	0.38	3.36	0.78	1 1/2	1 1/2
	1/2	1/2	5-NVFC8FC8-250	0.250	2.62	1.31	1.31	0.68	0.75	1.74	0.38	3.36	0.78	1 1/2	1 1/2
	1/2	1/2	5-NVFC8FC8-312	0.312	2.62	1.31	1.31	0.68	0.75	1.74	0.38	3.36	0.78	1 1/2	1 1/2
	1/2	1/2	5-NVFC8FC8-343	0.343	2.62	1.31	1.31	0.68	0.75	1.74	0.38	3.36	0.78	1 1/2	1 1/2
Male NPT	1/8	1/8	5-NVMC2MC2-063	0.063	1.82	0.90	0.90	0.37	0.4	1.37	0.38	2.55	0.53	11/16	11/16
	1/8	1/8	5-NVMC2MC2-172	0.172	1.82	0.90	0.90	0.37	0.4	1.37	0.38	2.55	0.53	11/16	11/16
	1/4	1/4	5-NVMC4MC4-063	0.063	1.82	0.90	0.90	0.37	0.4	1.37	0.38	2.55	0.53	11/16	11/16
	1/4	1/4	5-NVMC4MC4-172	0.172	1.82	0.90	0.90	0.37	0.4	1.37	0.38	2.55	0.53	11/16	11/16
	3/8	3/8	5-NVMC6MC6-250	0.250	2.26	1.13	1.13	0.43	0.43	1.74	0.38	3.15	0.78	7/8	7/8

Safe T Couplings 5-STC

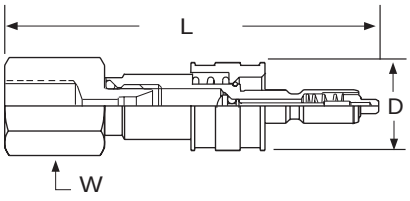


Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 SS	Brass
2	Body Adapter*	316 SS	Brass
3	Body Adapter Seal*	Viton O-Ring	Buna N O-Ring
4	Body Valve*	316 SS	316 SS
5	Body Valve Spring*	316 SS	316 SS
6	Body Valve Seal*	Viton O-Ring	Buna N O-Ring
7	Insert*	316 SS	316 SS
8	Insert Seal*	Viton O-Ring	Buna N O-Ring
9	Poppet*	316 SS	316 SS
10	Locking Ball*	316 SS	316 SS
11	Outer Body Sleeve	316 SS	Brass
11a	Inner Body Sleeve	316 SS	Brass
12	Sleeve Snap Ring	316 SS	316 SS
13	Body Sleeve Springs	316 SS	316 SS
14	Stem Body*	316 SS	Brass
15	Stem Sleeve	316 SS	Brass
16	Sleeve Spring	316 SS	316 SS
17	Snap Ring	316 SS	316 SS
18	DESO Valve*^	316 SS	316 SS
19	DESO Valve O-Ring*^	Viton O-Ring	Buna N O-Ring
20	Valve Cap Spring*	316 SS	316 SS
21	Valve Cap*	316 SS	Brass
22	Stem Adapter*	316 SS	Brass

* Wetted Components

^ Not assembled in SESO stem

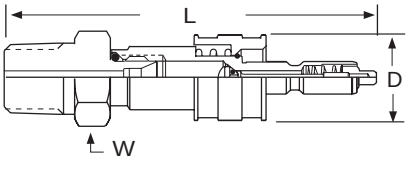
Safe T Couplings 5-STC



STEM (DESO)

Stem has valve; shuts off when uncoupled

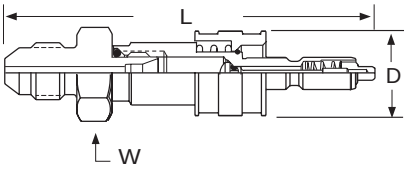
End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Female NPT	5-STC4-D-4FC	1/4	2.52	*	3/4
	5-STC6-D-6FC	3/8	2.81	*	7/8
	5-STC8-D-8FC	1/2	3.74	*	1 1/16



STEM (DESO)

Stem has valve; shuts off when uncoupled

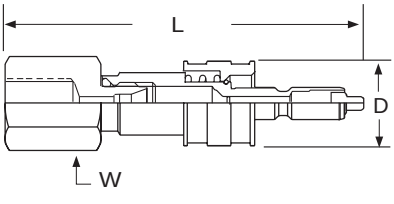
End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Male NPT	5-STC4-D-4C	1/4	1.72	*	9/16
	5-STC6-D-6C	3/8	1.82	*	11/16
	5-STC8-D-8C	1/2	2.26	*	7/8



STEM (DESO)

Stem has valve; shuts off when uncoupled

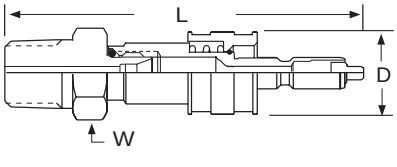
End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Male JIC	5-STC4-D-4J	1/4	2.78	*	1/2
	5-STC6-D-6J	3/8	2.83	*	5/8
	5-STC8-D-8J	1/2	3	*	13/16



STEM (SESO)

Stem has no valve; remains open when uncoupled

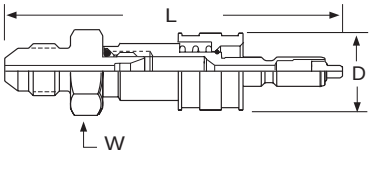
End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Female NPT	5-STC4-S-4FC	1/4	2.52	*	3/4
	5-STC6-S-6FC	3/8	2.81	*	7/8
	5-STC8-S-8FC	1/2	3	*	1 1/16



STEM (SESO)

Stem has no valve; remains open when uncoupled

End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Male NPT	5-STC4-S-4C	1/4	1.72	*	9/16
	5-STC6-S-6C	3/8	1.82	*	11/16
	5-STC8-S-8C	1/2	2.26	*	7/8



STEM (SESO)

Stem has no valve; remains open when uncoupled

End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Male JIC	5-STC4-S-4J	1/4	2.78	*	1/2
	5-STC6-S-6J	3/8	2.83	*	5/8
	5-STC8-S-8J	1/2	3	*	13/16

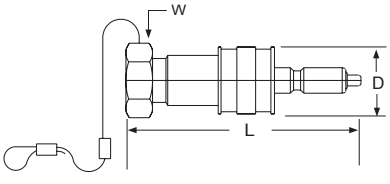
*See STC Series key numbers and stem sleeve outside diameters

Safe T Couplings 5-STC

Stem Keys

STC series key numbers and stem sleeve outside diameters

Key Number and Color	STC4	STC6	STC8
	Ø Stem Sleeve	Ø Stem Sleeve	Ø Stem Sleeve
K1 black	0.82	0.99	1.10
K2 orange	0.85	1.02	1.14
K3 green	0.88	1.05	1.17
K4 yellow	0.91	1.08	1.20‘
K5 blue	0.94	1.11	1.23
K6 white	0.97	1.14	1.26
K7 purple	1.00	1.17	1.29
K8 brown	1.03	1.20	1.32

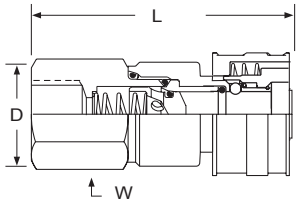


Stem Plugs

Series	Part Number	Body Size	L	W	D
5-STC-4	5-STC-4-SP-316	1/4	2.25	9/16	*
5-STC-4	5-STC-4-SP-B	1/4	2.25	9/16	*
5-STC-6	5-STC-6-SP-316	3/8	2.47	11/16	*
5-STC-6	5-STC-6-SP-B	3/8	2.47	11/16	*
5-STC-8	5-STC-8-SP-316	1/2	3.38	7/8	*
5-STC-8	5-STC-8-SP-B	1/2	3.38	7/8	*

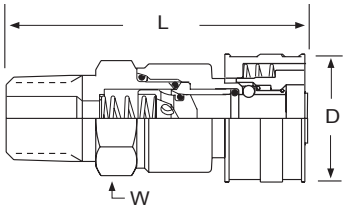
When stem is uncoupled, the use of a stem plug is recommended to guard against damage and contaminants. Stem plugs are not pressure containing devices.

Safe T Couplings 5-STC



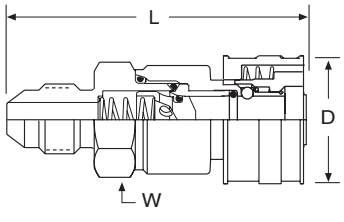
Body/Coupler

End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Female NPT	5-STC4-B-4FC	1/4	1.95	*	3/4
	5-STC6-B-6FC	3/8	2.00	*	7/8
	5-STC8-B-8FC	1/2	2.98	*	1 1/16



Body/Coupler

End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Male NPT	5-STC4-B-4C	1/4	1.98	*	9/16
	5-STC6-B-6C	3/8	2.19	*	11/16
	5-STC8-B-8C	1/2	2.76	*	7/8



Body/Coupler

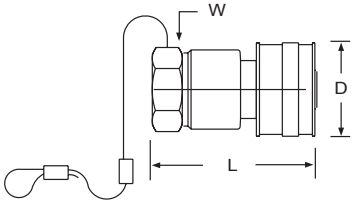
End Connection Type	Part Number	Connector Size	Dimensions		
			L	D	W
Male JIC	5-STC4-B-4J	1/4	1.97	*	1/2
	5-STC6-B-6J	3/8	2.00	*	5/8
	5-STC8-B-8J	1/2	2.67	*	13/16

*See STC Series key numbers and body sleeve outside diameters

Body Keys

STC series key numbers and body sleeve outside diameters

Key Number and Color	STC4	STC6	STC8
	Ø Body Sleeve	Ø Body Sleeve	Ø Body Sleeve
K1 black	0.96	1.13	1.26
K2 orange	0.99	1.16	1.29
K3 green	1.02	1.19	1.32
K4 yellow	1.05	1.22	1.35
K5 blue	1.08	1.25	1.38
K6 white	1.11	1.28	1.41
K7 purple	1.14	1.31	1.44
K8 brown	1.17	1.35	1.47



Body Caps

Series	Part Number	Body Size	L	W	D
5-STC-4	5-STC-4-BC-316	1/4	1.42	9/16	*
5-STC-4	5-STC-4-BC-B	1/4	1.42	9/16	*
5-STC-6	5-STC-6-BC-316	3/8	1.63	11/16	*
5-STC-6	5-STC-6-BC-B	3/8	1.63	11/16	*
5-STC-8	5-STC-8-BC-316	1/2	2.01	7/8	*
5-STC-8	5-STC-8-BC-B	1/2	2.01	7/8	*

When body is uncoupled, the use of a body cap is recommended to guard against damage and contaminants. Body caps are not pressure containing devices.

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Tooling

Automatic, Semi-Automatic

Manual

Accessories

VERSAtool™

V-VERSA

VERSAtool™ is a Mechanically Assisted/ Manual Tube End Flare and Flange Machine that provides ultimate versitility in a tube preperation tool.

VERSAtool™ is a "three-in-one" operation center. It flares 1/4" to 1-1/2" (6mm to 38mm) tubing AND flanges 1/4" to 1" (6mm to 25mm) tubing. The forming operation automatically burnishes the tube sealing surface. The machine is tested and approved for use with stainless steel, carbon steel, and copper tubing.

Ideal for Short-Runs and Large Size Variation

Change-over accomplished in 60 seconds or less; production cycle times between 5-15 seconds.

Optimal for Cellular Manufacturing

Right-sized tool fits directly into the flow of products to eliminate unnecessary transport and waiting times on the shop floor.

Versatile and Multifunctional

All in one machine flares and flanges steel, stainless and copper tubing. Tube-end finishing operation results in a burnished surface.

Error-Proofed Design

Incorporates many intuitive, mechanical features aimed at 100% first-time quality.

VERSAtool™ concept means low operating cost, high consistency, and high operator satisfaction.

Flaring

Works on the following Tube Sizes: 37° & 45° Flare

1/4"	6mm
3/8"	10mm
1/2"	12mm
3/4"	18mm
1"	25mm
1-1/4"	32mm
1-1/2"	38mm

Meets the Following Specifications

Fitting	SAE J514 Hydraulic Tube Fittings (37° Flare)
	SAE J512 Automotive Tube Fittings (45° Flare)
	SAE J513 Refrigeration Tube Fittings (45° Flare)
Flare Dimensions	SAE J533
Stainless Tubing	ASTM A-269
Copper Tubing	SAE J528
Steel Tubing	SAE J525

Flanging

Works on the following Tube Sizes: 90° Flange

1/4"	6mm
3/8"	10mm
1/2"	12mm
3/4"	18mm
1"	25mm

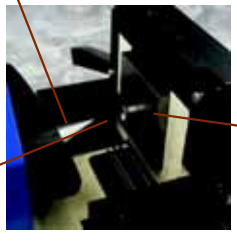
Meets the Following Specifications

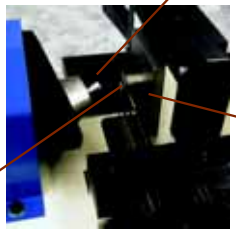
Fitting	SAE J1453 O-Ring Face Seal Fittings
Flange Dimensions	SAE J1453 O-Ring Face Seal Fittings
Stainless Tubing	ASTM A-269
Copper Tubing	SAE J528
Steel Tubing	SAE J525

VERSAtool™ flares and flanges various sizes of tubing in 5 to 15 second cycles. Change-overs are accomplished in 60 seconds or less. A separate Nosetool and SINGLE SET of Dies will allow VERSAtool™ to form a 37° or 45° Flare, or a 90° Flange.

For flaring and flanging, the selected Die Set is put in the respective orientation and inserted in the Carrier. The appropriate Flare or Flange Nosetool is inserted in the Spindle.

VERSAtool™ uses clean, quiet, highly-reliable 115VAC. The geared hand wheel feeds the tubing into the orbiting Nosetool. The resulting metal forming operation produces a consistent, burnished tube end for reliable sealing.





The process of orienting the same Die Set for either flaring or flanging is mistake-proofed because the dies have built in orientation pins, which make mis-matching impossible.

Go/No-Go Gauge

Between each production cycle, an on-hand Gauge provides quick and simple means of doing 100% reliable proof-check.

Feedstop Gauge

Hand-held Feedstop allows tubing to be fed to the exact length off the face of the split dies and, in most cases, eliminates tool changes between wall thicknesses.

VERSAtool

SSP Hydraulic Swaging Tool

V-HST

The SSP Hydraulic Swaging Tool swages 1" and larger SSP SAE Flareless tube fitting ferrule onto the tubing prior to assembly to the fitting body. Using hydraulic pressure, the SSP Hydraulic Swaging Tool overcomes the challenge of manually applying the significant torque required to install 1" and larger tube fittings. The SSP Hydraulic Swaging Tool reduces installation time and assures sufficient make-up for leak-tight connections on larger tube fitting sizes.

- Preswages SSP SAE Flareless tube fitting ferrule onto tubing
- Quick and easy tooling changes to install 1", 1.25", 1.5" and 2" tube fittings
- Places no initial strain on nut, fitting body threads or fitting body sealing surfaces
- Unique marking feature gives visual indications on nut and tubing that swaging is complete
- View window for verification of complete swage
- Rugged plastic, wheeled carrying case with pull handle

Nut Dies	
Tube O.D.	Part Number
1"	V-M16PSND
1-1/4"	V-M20PSND
1-1/2"	V-M24PSND
2"	V-M32PSND

Body Dies	
Tube O.D.	Part Number
1"	V-M16PSBD
1-1/4"	V-M20PSBD
1-1/2"	V-M24PSBD
2"	V-M32PSBD

Manual Preset Dies

V-MPD

For SAE Flareless tube fittings.

The manual preset dies provide a fast and easy way to manually pre-set the ferrule onto the tube. The tool body is manufactured from hardened steel for withstanding repeated presets. A separate tool is required for each size tube. To use lubricate threads on tool, threads on nut as well as tail and lead ends of ferrule with a suitable lubricant. Insert tube end with ferrule into tool until it bottoms against shoulder and thread the nut down until finger tight. Light wrenching may be required to get to a consistent starting position, especially with larger sizes. Hold tube steady against internal shoulder and tighten nut 1-3/4 turns. Loosen nut and inspect bite using inspection criteria outlined for SAE Flareless tube fittings.

Fractional Tube O.D.	Part No.
Male Nut	
1/8"	V-MPDM2
1/4"	V-MPDM4
3/8"	V-MPDM6
1/2"	V-MPDM8
3/4"	V-MPDM12
1"	V-MPDM16

Flare Pin and Vice Block

V-FPVB

These 37° flaring tools are for use with copper, aluminum alloy, and thin wall steel or stainless steel. Separate tooling set for each tube from 1/4" O.D. through 1"O.D. Maximum wall thickness: 1/8" to 3/8" is 15% of tube O.D., 1/2" and larger is 10% of tube O.D.

How to Use

Clamp tube flush in matching halves of block in a bench vise. Give hardened steel flaring pin a few sharp blows with a hammer to form the flare.

Tube O.D.	Part No.
1/4"	V-FPVB4
3/8"	V-FPVB6
1/2"	V-FPVB8
3/4"	V-FPVB12
1"	V-FPVB16

To order vice black and pin set use part numbers above. To order block or pin separately add either “pin” or “block” as a suffix to part number.

Multi-Tube Hand Bender

V-THB

For use with copper, aluminum alloy, steel, or thin-walled stainless steel tubing ¼", 5/16" and 3/8".

Two-hand bender for precision tube bending up to 180°

Key features

- Incorporates 3 popular tube sizes
- Rotational locking action allows tool to bend to 90°, rotate and lock into position to bend another 90°
- Light, compact, and easy to use in confined spaces
- Repeated alternate angled bends can be produced
- Incorporates a clear radius scale: 45°/90°/135°/180° subdivided into 15° intervals with reserve length table
- Provides problem free, quick, precise work
- 90° handle start position for optimum ease in use
- High quality construction with die-cast aluminum handles

Tube Hand Benders-Inch

V-THB

For use with copper, aluminum, annealed steel and stainless steel, available in 1/4", 3/8" and ½" sizes. Easy-to-use, just align marks on slide block and radius block, and bend to the preferred (up to 180°) angle by pulling on the slide block handle. Bend angles shown on both front and back of radius block.

Tube O.D.	Bend Radius	Part Number
1/4"	0.75	V-THB4
3/8"	0.94	V-THB6
1/2"	1.5	V-THB8

Large Tube Cutter

V-LC1

All SSP cutters have strong metal bodies for cutting stainless steel, copper, steel, and aluminum tubing from 3/16 to 1 in., and 4 to 25 mm outside diameter tubing. Cutters feature hardened rollers to make precise cuts close to the end of tubing—great for removing flared ends. Has a fold-away deburring reamer and grooved dual rollers.

Small Tube Cutter

V-SC1

A small swing radius lets you cut tubing in tight spaces. Has 1-1/4" swing radius and smooth dual rollers, has 1-11/16" swing radius and grooved dual rollers and has 1-15/16" swing radius and grooved dual rollers.

Replacement Wheel

V-LCRW and V-SCRW

High quality replacement wheels fit Large and Small SSP Tube Cutters.

V-LCRW – Large Tube Cutter Replacement Wheel

V-SCRW – Small Tube Cutter Replacement Wheel

Tube Deburring Tool

V-DB1

Ream and deburr the inside and outside edges of 3/16" to 1-1/2" and 4 to 38mm metal tubing with one tool. Tools have three cutters on each end and a die cast zinc body. They can cut both clockwise and counterclockwise.

Tube Sawing Guide

V-SB1

The tube sawing guide holds tube, pipe, and hose from sizes 3/16" OD to 2" OD for fast, accurate cutting with a fine-toothed hacksaw. Mount in a vice or bolt to a bench. Clamp tube, hose or pipe into the vice and cut off. The guide ensures accurate square cuts, reduces tubing preparation time, thereby speeding system assembly.

PTFE Tape

V-PTFET

Thread sealant to be used for male tapered pipe threads. Enhances sealing by filling any voids in the threads and reduces the potential for galling or seizing if the threads are forced together by over tightening.

	Part No.
PTFE Tape 1/4"	V-PTFET-4
PTFE Tape 1/2"	V-PTFET-8
Nickel Coated Tape	V-NCT

Liquid Leak Detector

V-LLD

SSP's Liquid Leak Detector detects gas leaks in hard to reach places. When applied to the external surface of an application it can be used to detect even the smallest leaks in any pressurized gas system. Can also be used in gas pressure testing liquid lines or vacuum systems. For use between 27° - 200°F.

Technical Reference

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Product Application Tables

Tube Fittings

Feature	Soft-Seal ORFS (O-Ring Face Seal)	SAE 37° Flared	UltraFlare®	SAE Flareless
Pressures	Very high	Medium to high	High	Medium
Temperatures	Nitrile/Buna: -30° to 250°F Viton: -15° to 400°F	Stainless: -425° to 1200°F Brass: -40° to 400°F Monel: -65° to 800°F	PTFE/Teflon: -100° to 450°F	Stainless: -425° to 1200°F Monel: -65° to 800°F
Vibration Resistance	Excellent	Good	Very good	Good
Materials	T316/316L stainless steel	T316/316L stainless steel M405 Monel“ CA377/CA360/CA345 brass	T316/316L stainless steel	T316/316L stainless steel (17-4 ph stainless for ferrule) M405 Monel
Size Available (tubing OD)	NavSea: 1/8” – 2” SAE: ¼” – 1-1/2”	1/8” – 2” 6mm – 38mm	¼” – 1” 6mm – 25mm	1/8” – 2”
Tube Compatibility	Welded or Seamless Inch or metric All thickness	Welded or Seamless Inch or metric Thin to medium thickness	Welded or Seamless Inch or metric Thin to medium thickness	Seamless only Inch only Medium to heavy thickness
Seal Reliability	Excellent Elastomeric seal High tolerance to minor surface imperfections and damage High tolerance to assembly variation	Good Metal-to-metal seal Low tolerance to minor surface imperfections and damage Low tolerance to assembly variation	Very good PTFE seal reinforces metal-to-metal seal Medium tolerance to surface imperfections Medium tolerance to assembly variation like under-flaring or torquing	Very good Metal to metal seal Sealing surfaces are less prone to damage Low tolerance to assembly variation
Assembly				
Tubing Preparation	Sleeve brazing or tube flanging	Tube flaring	Tube flaring	Ferrule presetting
Ease of Assembly	Excellent Minimal skill required once tailpiece/sleeve is affixed to tubing	Good Requires skill and trained personnel	Good Requires general knowledge of tube flaring & assembly, but forgiving of assembly variation	Good Requires skill and trained personnel
Ease of Maintenance	Excellent “Zero-clearance” system means no tube entry into fitting body	Very good Small tube entry around fitting body	Very good Small tube entry around fitting body	Good Large tube entry into fitting body
Specification Conformance	SAE J1453 NavSea 710 ISO 8434-2	SAE J514 MIL-F-18866 ISO 8434-3	SAE J514 (partial) NASA GP-425 (partial)	SAE J514 MIL-F-18866

Product Application Tables

Hose Fittings

Hose/Tubing	Fitting System	Temperature	Working Pressure (per specification)	Construction
HYDRAULIC				
SAE 100R1 AT	AH402 & HL	-40 to 212°F	3000 psi	Single wire braid, synthetic rubber tube & cover.
SAE 100R2 A	AH407	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
SAE 100R2 AT	AH300 & HL	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
SAE 100R5, J1402	AH200 & 202	-40 to 212°F	3000 psi	Single wire braid with outer textile braid cover, synthetic rubber tube.
SAE 100R9 A	AH437	-40 to 212°F	4500 psi	Four spiral wire braid, synthetic rubber tube & cover.
SAE 100R12 A	AH477	-40 to 250°F	4000 psi	Four spiral wire braid, synthetic rubber tube & cover.
SAE 100R16	HL	-40 to 212°F	5000 psi	One or Two wire braid, synthetic rubber tube & cover.
DIN 20 022 type 1SN	AH402	-40 to 212°F	3000 psi	Single wire braid, synthetic rubber tube & cover.
DIN 20 022 type 2SN	AH300	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
DIN 20 022 type 2ST	AH407	-40 to 212°F	5000 psi	Two wire braid, synthetic rubber tube & cover.
MIL-H-24135/1	AH407	-40 to 212°F	5000 psi	Single wire braid, synthetic rubber tube & cover.
MIL-H-52471	AH477	-40 to 250°F	4000 psi	Four spiral wire, synthetic rubber tube & cover.
TEFLON				
SAE 100R14	AH900, H940	-65 to 400°F	1500 psi	Inner tube of PTFE reinforced with a single braid of stainless steel.
MIL-H-27267	AH920, H840	-65 to 400°F	1500 psi	Inner tube of PTFE reinforced with a single braid of stainless steel.
THERMOPLASTIC				
SAE 100R7	AH561	-40 to 200°F	3000 psi	Nylon inner tube, reinforced with synthetic or Aramid fiber, preforated polyurethane cover.
SAE 100R8	AH561	-40 to 200°F	5000 psi	Nylon inner tube, reinforced with synthetic or Aramid fiber, preforated polyurethane cover.
PUSH-ON				
Push-Lok/ Socketless style	H802	-40 to 200°F	350 psi	Single textile braid, synthetic rubber tube & cover.
SAE 100R4	H808	-40 to 212°F	300 psi	Single spiral of body wire reinforced with textile braid. Synthetic rubber tube & cover.
Bev-A-Line®	M2HC	-60 to 160°F	50 psi	PE liner with EVA shell. Clear transparent FDA/USDA tubing
ETFE	MHC	-150 to 300°F	100 psi	Ethylene tetrafluoroethylene tubing for high temp chemicals.
Gum Rubber	M2HC	-15 to 150°F	300 psi	Extruded elastomer for water & air. Thick wall ideal for light vacuum.
Kynar®	MHC	-40 to 260°F	100 psi	Fluoropolymer vinylidene fluoride; impact & abrasion resistant.
Nylon Tubing	MHC	-40 to 200°F	100 psi	Synthetic plastic material composed of polyamides.
Norprene®	M2HC	-60 to 275°F	400 psi	A-60-F IB formulation; heat & UV resistance with higher pressure
Pharmed®	M2HC	-75 to 275°F	100 psi	Biocompatible tubing for peristaltic pump lines.
Polyethylene	MHC	-100 to 175°F	100 psi	Low cost viynl polymer used as electrical insulating pipe
Polyurethane	M2HC/MHC	-70 to 185°F	300 psi	Ester-based compound with good abrasion resistance & insultation
PTFE	MHC	-100 to 450°F	100 psi	Polytetrafluoroethylene (teflon). Opaque & rigid. Chemically inert.
Silicone	M2HC	-60 to 400°F	200 psi	Silicone-based tubing in various formulations for purity applications
Tygon®	M2HC	-40 to 125°F	300 psi	Clear, flexible tubing for beverage, dairy and lab applications.
Viton®	MHC	-25 to 400°F	300 psi	Fluoroelastomer known for heat resistance.
WELD-ON				
Stainless Steel	BH		2700 psi	Inner tube of bellowed s.s. reinforced with a single s.s. braid.

Product Application Tables

Pipe Fittings and Adapters

Feature	Threaded – Tapered	Threaded – Straight	Pipe Swivel	Weld & Braze	Koncentrik®
Pressures	Very high to 7,200 psi (static systems only)	High to 6,000 psi	High to 6,000 psi	Very high to 12,000 psi	Very high to 10,000 psi
Temperatures	Stainless: -425° to 1200°F Brass: -40° to 400°F Monel: -65° to 800°F	Nitrile/Buna: -30° to 250°F Viton: -15° to 400°F	Stainless: -425° to 1200°F	Stainless: -425° to 1200°F Monel: -65° to 800°F	PTFE/Teflon: -100° to 450°F
Vibration Resistance	Poor	Very Good	Medium	Excellent	Very Good
Materials	316/316L stainless steel M405 Monel CA377/CA360/CA345 brass	316/316L stainless	316/316L stainless	316L stainless M405 Monel	316/316L stainless M405 Monel
Size Available (nominal)	1/8" – 2"	#4 - #32	#4 - #32	1/8" – 2"	1/8" – 2" #4 - #32
Seal Reliability	Good in static systems Poor in dynamic systems Medium tolerance to minor thread imperfections Medium tolerance to assembly variation	Excellent in static systems; Very good in dynamic systems Medium tolerance to thread & taper angle imperfections	Good in static & dynamic systems. Low tolerance to damage along sealing angles. Medium tolerance to thread imperfectons.	Excellent. Permanently brazed or welded joints are leak-free & high resistant to vibration.	Very good PTFE seal reinforced by metal-to-metal seal Medium tolerance to surface imperfections Medium tolerance to assembly variation like under-torquing
Assembly					
Thread & Port Preparation	Anaerobic sealant or thread tape	General lubricant applied to threads	General lubricant applied to threads	Fluxing & other prep. Steps required for weld	Varies. Connects to tubing, pipe & port connections.
Ease of Assembly	Medium L1 thread gauge & basic ass'y practices must be followed	Very high Intuitive make-up Simple process	Medium Flats from Finger-Tight method utilized.	Difficult Certified welding or brazing skills required.	Medium Flats from Finger-Tight method utilized.
Ease of Maintenance	Limited breaks and remakes due to metal deformation of threads	Very good. Virtually unlimited breaks & remakes. O-ring replacement only	Good. Low metal deformation to create seal means moderately high repeatability	N/A. Permanently assembled joint cannot be maintained.	Very good. High number of breaks & remakes with Teflon snap-ring replacement.
Specification Conformance (design & thread)	J514, MIL-F-18866 ANSI B1.20.1, JIS B0203, BS 21, ISO 7/1	SAE 1926, ISO 11926 UN/UNF/UNEF: ANSI B1.1, ISO 263 BSPP: ISO 228/1, BS 2779, DIN 259, JIS B0202	SAE J514 ANSI B1.20.1	ANSI B31.3	ANSI B31.1.0 Power Piping ANSI B16.11 Forged Steel Fittings Socket Welded & Threaded

Installation Instructions

Tube Fittings, Soft-Seal (O-Ring Face Seal), SAE & Nav-Sea

STEP 1 - PROPER PLANNING AND TUBING SELECTION

To ensure safe and satisfactory performance, any piping system should be thoroughly planned. Appropriate support for the tubing must be provided. Bends must be calculated to allow undistorted straight sections of tubing to slide into the socket of the sleeve/tailpiece.

The tubing should be fully annealed seamless or welded and drawn over mandrel Type 304 or 316 (regular or L-grade) manufactured to ASTM-A213, A249, or A269 and suitable for bending and flaring, with a maximum hardness of Rockwell B90. Tubing of the proper wall thickness and pressure rating should be selected. It must be perfectly round for a good fit in the socket to ensure proper capillary action of the brazing material.

STEP 2 - PREPARING THE TUBING

Cut the tube to proper length with a tube cutter, fine blade hacksaw, or abrasive wheel. Hold the tube in flaring blocks or similar device to not distort it out of round. Next, deburr both the inside and outside of the tube with a file, deburring tool, or aluminum-free emery cloth. The end of the tube must be square and clean. Put nut on tubing.

STEP 3 - CLEAN THE TUBE

The tube must be perfectly clean for the brazing material to flow freely and make a secure joint. Use a solvent or strong detergent to remove any grease or oil. Next, use a clean aluminum-free emery cloth to polish the tube to a clean, bright surface.

STEP 4 - PREPARE THE SLEEVE/TAILPIECE

The inside of the socket in the sleeve or tailpiece must be cleaned in the same way. Then, insert a ring of silver brazing material into the bottom of the socket. These preformed brazing rings are available from SSP and are shown in the component section of each ORFS fitting type. The brazing ring must also be clean.

STEP 5 - PREPARING AND APPLYING FLUX

For silver brazing, choose flux which conforms to AWS A5.31 type 3C. Mix with hot water until it reaches the consistency of rich cream. Flux prevents oxidation, dissolves any residual oxide, and cleans the surface which enables the alloy to flow.

Fully coat the socket and exterior of the sleeve/tailpiece. Continue applying the flux to the exterior of the tubing, approximately 3" down from the end. When finished, the flux should cover the entire braze joint area, and about 2-1/2" down the tubing below the fitting.

Tube Fittings, Soft-Seal (O-Ring Face Seal), SAE & Nav-Sea

STEP 6 - HEATING THE FITTING

A heat source must be used that will produce at least +1400°F. This can be an electric induction coil or a torch. Put the fluxed assembly in a vise with the sleeve and braze ring in place on the tube. If using a torch, adjust the torch's flame so that the base is blue but there are orange "feather-like licks" at the end. Heat both the sleeve and the tube uniformly so they both reach the brazing temperature at the same time. Do not overheat.

Use the following chart as a guide when brazing:

Temp	Flux Reaction
212° F	water will boil off
600° F	flux is white and puffy
800° F	flux is milky appearance
1000° F	flux clear-bright metal visible
1125° F	silver ring melts
1145° F	silver flows

*Never heat the parts to a red color

When the silver alloy melts, the flux will draw it throughout the joint and a small fillet of silver alloy will appear around the tube. When this happens the braze is complete. Remove the heat source and allow the fitting to cool for five or ten seconds. Drop the assembly in water and cool completely.

STEP 7 - CLEANING UP THE FITTING

To ensure safe and satisfactory performance, any piping system should be thoroughly planned. Appropriate support for the tubing must be provided. Bends must be calculated to allow undistorted straight sections of tubing to slide into the socket of the sleeve/tailpiece.

Flux residue is corrosive and must be removed completely. Scrub the assembly with a wire brush and hot water. The water must be hot to be effective.

Note: Welding instructions

Please follow your company's welding operating proceedures.

Installation Instructions

Tube Fittings, SAE 37° Flared

STEP 1 - TUBING PREPARATION

Use fully annealed type 304 or 316 stainless steel seamless or welded and drawn tubing suitable for bending and flaring.

Cut the tube to length using a fine blade hacksaw or abrasive saw. Do not use a tube cutter because it may harden the tubing as it cuts and can cause the flares to split. Be sure each cut is square. Remove burrs with a deburring tool, fine file or emery paper. Clean the tubing to be sure it is free of dirt, grit, metal filings or any other foreign material that might scratch or mar the flare.

Place the nut and then the sleeve on the tube with the open threaded end of the nut and the larger tapered opening of the sleeve toward the end of the tube.

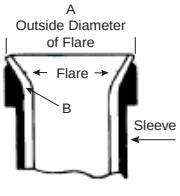
STEP 2 - FLARING

Flare the tube end to 37° using a block and pin flaring tool or power flaring equipment.

STEP 3 - INSPECTION

The flare must be perfectly smooth and free of any scratches or surface imperfections of any kind. It must also be concentric with the tube. That is, the amount of flare must be equal all around the tube. It must not be cocked or uneven. Inspect the flare to be certain the dimensions (see drawings and chart below for flare dimensions) are correct and the flare is not split or cracked.

Tube OD	A		B Radius	W Wall
in	Max	Min	±0.02	Max
1/8	0.200	0.180	0.03	0.035
3/16	0.280	0.260	0.03	0.035
1/4	0.360	0.340	0.03	0.065
5/16	0.430	0.400	0.03	0.065
3/8	0.490	0.460	0.04	0.065
1/2	0.660	0.630	0.06	0.083
5/8	0.790	0.760	0.06	0.095
3/4	0.950	0.920	0.08	0.109
7/8	1.070	1.040	0.08	0.109
1	1.200	1.170	0.09	0.120
1-1/4	1.510	1.480	0.09	0.120
1-1/2	1.730	1.700	0.11	0.120
2	2.360	2.330	0.11	0.134



Tube Fittings, SAE 37° Flared

STEP 4 - ASSEMBLY

Proper assembly practices are necessary to ensure that the fittings and tubing seal. The tubing must be aligned with the axis of the fitting so that the entire circumference of the flare makes simultaneous full-circle contact with the nose cone of the fitting. The cone must enter the flare perfectly straight. The tubing must also be supported so it does not sag and disturb the alignment.

During assembly, care should be taken to prevent damage to the sealing surfaces and threads through galling. To prevent galling, high pressure grease should be applied to the threads and contacting surfaces. Also very important is that only the nut be turned during assembly. The fitting must be held still so it does not rotate against the mating surface. Care must also be exercised to avoid overtightening.

The tube nut must then be snugged up to bring the flare into contact with the nose cone. Any "slop" or spring in the assembly must be taken up so the installer is certain that the tubing is fully seated.

Note: When assembling a swivel nut fitting it is especially important to get the female taper of the swivel end into contact with the nose cone. The pin wire that holds the swivel nut to the body has outward spring that causes the nut and body to be held apart. This separation must be overcome by extra tightening of the swivel nut to seat the tapers against each other.

STEP 5 - FINAL ASSEMBLY AND INSPECTION

Once the nose cone is firmly seated as above, proper assembly is completed by turning the nut the appropriate distance. Either of two different methods may be chosen to complete the assembly. The two methods are the Flats of Nut Method and the Torque Method. In the Flats of Nut Method, the distance is measured by flats on the nut hex compared to a point on the fitting body. The nut and body should be marked with permanent ink to show the starting point. The nut should then be further tightened according to the following chart. The body should receive a second mark in line with the nut in the tightened position as a visual indication that the assembly has been completed.The following chart shows the number of flats the nut should be turned after the sealing surfaces have been brought into contact.

The Torque Method employs a torque wrench to tighten the fitting to a set value.

Note: Torque values are for Stainless Steel and Monel Fittings only.

Fitting Size	Nut Hex	Number of Flats to Turn				Torque	
		Tube Nut		Swivel Nut Fitting		Foot Pounds	
		Min.	Max.	Min.	Max.	Min.	Max.
2	3/8	2-1/4	2-1/2	2-1/4	2-1/2	6	8
3	7/16	2 -1/4	2-1/2	2-1/4	2-1/2	8	10
4	9/16	2	2-1/4	2	2-1/4	13	15
5	5/8	2	2-1/4	2	2-1/4	17	19
6	11/16	1 - 1/2	1-3/4	1-1/4	1-1/2	24	26
8	7/8	1- 1/2	1-3/4	1	1-1/4	50	53
10	1	1- 1/2	1-3/4	1	1-1/4	70	75
12	1-1/4	1 -1/4	1-1/2	1	1-1/4	95	100
14	1-3/8	1	1-1/4	1	1-1/4	115	120
16	1-1/2	1	1-1/4	1	1-1/4	130	135
20	2	1	1-1/4	1	1-1/4	175	185
24	2-1/4	1	1-1/4	1	1-1/4	215	225
32	2-7/8	1	1-1/4	1	1-1/4	290	300

Installation Instructions

Tube Fittings, SAE Flareless

STEP 1 - TUBING SELECTION

In order for SAE Flareless fittings to operate properly, they must be attached to the correct tubing. The tubing must be of proper hardness and roundness. Use tubing that is either seamless or welded and drawn over a mandrel. It should also be fully annealed and suitable for bending and flaring. Be particularly careful when using welded and drawn tubing that no flat spot remains at the area of the weld seam.

For stainless applications, use Type 304 or 316 tubing with the above description manufactured in accordance with ASTM-A213, A249, or A269 latest revisions, with a maximum hardness of Rockwell B90. For Monel use Alloy 400 seamless tubing with the above description made to ASTM-B165 latest revision and with a maximum hardness of Rockwell B70.

The wall thickness of the tubing must meet or exceed the requirements shown in Figure 1.

Figure 1. Minimum Tube Wall Thickness

Tube Size O.D. - In.	Size No	Min Tube Wall
1/8	2	.010
3/16	3	.020
1/4	4	.028
5/16	5	.028
3/8	6	.035
1/2	8	.049
5/8	10	.065
3/4	12	.065
7/8	14	.083
1	16	.083
1-1/4	20	.095
1-1/2	24	.095
2	32	.095

STEP 2 - TUBE CUTTING

Use a tube vise (vee blocks or flaring blocks) to hold the tube securely without squashing or distorting it. Cut the tube square within ±1° using a fine tooth hacksaw or power cut-off saw. Manual tube cutters that rotate a wheel around the tube are not recommended. Inspect the tube to be certain it has been cut square so that it will make full 360° contact with the tube stop inside the body of the fitting.

STEP 3 - DEBURRING AND CLEANING

Use a file, abrasive wheel, deburring knife, or emery paper to remove any cut-off burrs from both inside and outside of the tube. Burrs could prevent proper assembly. Be careful not to do more than just break the corners. The end of the tube must be flat and even where it contacts the tube stop inside the fitting.

Carefully clean the tube to be sure no dirt, grit, or any foreign matter remains on the inside or outside. Solvent, compressed air, or a soft cloth may be used.

Tube Fittings, SAE Flareless

STEP 4 - LUBRICATION

Use a high quality heavy oil or grease to ease installation and permit proper movement of the components, lubrication should be applied at points that will come in contact with other surfaces. Carefully apply lubricant to the leading edge and rear angle of the ferrule. Also lubricate the tapered seat and the threads of the preset tool.

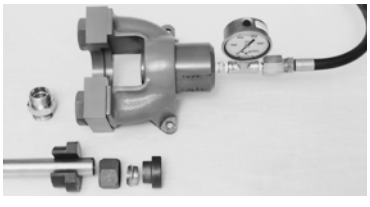
STEP 5 - NUT AND FERRULE ASSEMBLY

Slip the tube nut and ferrule onto the tube. The nut goes first with the open threaded end pointed back at the end of the tube. Then guide the ferrule over the tube with the larger diameter end first. The smaller diameter end (with the bite edge) points towards the end of the tube.

STEP 6 - PRESET

Hydraulic Method

To properly install a fitting the ferrule must be preset on the tube in one of two ways: manually with the use of an SSP manual preset tool (described below), or hydraulically with an SSP hydraulic preset tool. The manual method involves threading together the tube nut and preset body. The hydraulic method is easier and faster and uses a hydraulic cylinder to move the tube nut. The fitting body itself should not be used for presetting.



Manual Method

Hold the preset body in a vise. Insert the tube into the body until it bottoms against the tube stop. Screw the tube nut onto the body until it is hand-tight. While holding the tube snug against the tube stop, tighten the tube nut another 1-3/4 turns. If working with a long length of tubing, support it so it does not sag and fall out of alignment with the axis of the body. Do not overtighten. Overtightening can cause the ferrule to penetrate too far and weaken the tube wall.

Installation Instructions, Tube Fittings, SAE Flareless

STEP 7 - DISASSEMBLE AND INSPECT

Now untighten the nut and slide it away from the ferrule in order to inspect the results of the presetting. It is imperative to check the following points to be certain the ferrule is set correctly on the tube. If any of these conditions are not present, try again or contact your local distributor or SSP for assistance. Be sure that:

A. The leading edge of the ferrule has piled up a ridge of metal where it bites into the tube. This ridge or bite must cover at least half of the leading edge and also must run evenly around the entire outside of the tube. See Figure 3, A.

B. A slight bow may be seen in the tube ahead of the bite. This is caused by the forward action of the ferrule as the tube is trapped against the tube stop. It is more likely to occur in lighter wall tubing. See Figure 3, C. Also, the leading edge of the ferrule has been flattened by forward pressure. See Figure 3, B.

C. There is a slight bow in the front section of the ferrule. Figure 3, F. Also, the rear of the ferrule is snug against the tube. Figure 3, D.

D. There is a slight marking or indentation all around the end of the tube. See Figure 5, E. This indicates that the tube was firmly seated against the tube stop in the preset tool during presetting (Step 6), and that it was cut squarely (Step 2).

   If the marking is not visible along the complete circumference of the end of the tube, either the tubing was not squarely cut, or the ferrule is not biting. Verify that the tubing is the correct size and not out of round by using dial calipers or a micrometer. If it is correct, repeat Step 6. If after presetting, the tube still is not completely marked, disassemble and return to Step 2.

E. The ferrule may rotate on the tubing, but there should never be an uneven gap between the ferrule and bite. The ferrule must never be able to move forward ahead of the bite.

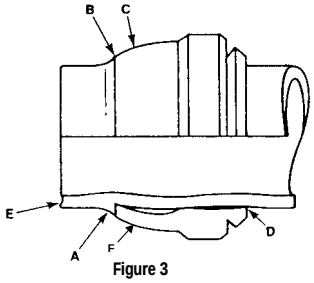


Figure 3


Figure 4

STEP 8 - REASSEMBLE FOR FINAL INSTALLATION

After all the inspection criteria have been verified, the preset ferrule may be installed in its body for use. Insert the tube into the fitting body and wrench the nut down easily until a sudden increase in resistance is felt. From this point, turn the nut an additional 1/6 turn (1 wrench flat) to compress the ferrule into place. This completes the assembly, sealing the tubing, ferrule and fitting body. See Figure 4.

Proper general installation procedures for tubing systems must be followed. This involves correct tube bending and support. The fitting is only one part of an entire system that must be properly designed and installed.

Installation Instructions

Tube Fittings UltraFlare®

STEP 1 - ASSEMBLY AND INSTALLATION

Follow all steps for tubing selection, flaring, and assembly as indicated in SAE 37° Flared Tube Fitting section up to Final Assembly.

UltraFlare® Tube Fittings' primary seal is the machined PTFE seal. It is important to make sure that the seal is properly, and evenly, installed in the machined recess in the fitting nose. The seal can be installed by simply rolling your thumb over the seal to create a snug fit in the machined recess.

STEP 2 - INSPECT

Inspect the seal to ensure an even band of metal which extends around the entire circumference of the fitting is visible above the installed seal. This indicates that the seal has been properly seated and the required interference fit has been achieved during seal installation.

UltraFlare® Tube Fittings have lower final assembly torque requirements than SAE 37° Flared Tube Fittings. Make up the final assembly using either the Torque Method or Flats of Nut Method.

Installation Torque			
Tube	Min	Max	Wrench Flats
1/4"	12	16	1-1/2
3/8"	24	30	1-1/4
1/2"	40	45	1-1/4
3/4"	80	95	1-1/4
1"	110	125	1

DISASSEMBLY AND REMAKE

SSP recommends replacing the PTFE seal with each break & remake. Consult factory for replacement seal information. Due to the compression set characteristics of Teflon, these seals are designed to be expendable. Carefully remove the seal from the fitting nose using a dental pick or other instrument being careful to avoid nicks & damage to the surrounding area. Reinstall a new seal as indicated above.

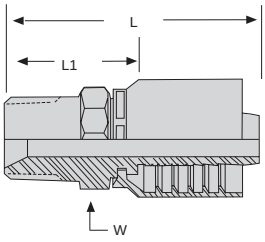
Installation Instructions

Hydraulok® Hose Assemblies

STEP 1 – HOSE PREPARATION

Determine overall length of hose assembly using the fitting dimensional tables. Subtract the L1 dimension from the L dimension to get the appropriate cut off allowance. Mark and cut hose using a fine-tooth hacksaw or a cut off machine.

Ensure that hose is cut square. Clean hose bore after cutting.



STEP 2 – MEASURE INSERTION DEPTH

Measure the distance from the bottom of the fitting to the end of the collar where the hose is to be inserted. Mark the hose with a line designating said insertion depth. This line will become the reference to determine if the hose is fully inserted into the fitting.

STEP 3 – ASSEMBLE

Push hose into fitting until hose bottoms on shoulder of fitting. If the insertion depth was marked correctly, the mark should be aligned with the end of the collar, when the fitting is completely inserted.

Contact factory for specific crimp diameters.

Hydraulok® Hose Assemblies

STEP 4 – CRIMPING

Confirm that the proper die set and tooling set up are being used. Select the correct crimp diameter on the crimp machine.

Place fitting and hose assembly into crimp machine and crimp.

STEP 5 – INSPECT

Check crimp diameter using a caliper or micrometer. Measure the crimp diameter at the center of the collar, avoid any ridges.

Clean or flush the assembly to remove any debris that may have been created during assembly process.

Visually inspect finished assembly. Take care in looking for any cracked, cocked or rusted fittings, a bulge behind the fitting, and the overall appearance of the assembly.

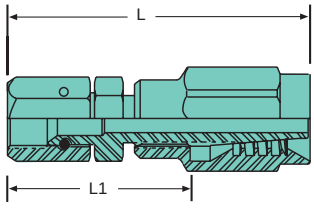
Contact factory for specific crimp diameters.

Installation Instructions

Hydraulic Hose Type A

STEP 1 - HOSE PREPARATION

Determine overall length of hose assembly using the fitting dimensional tables. Subtract the L1 dimension from the L dimension to get the appropriate cut off allowance. Mark and cut hose using fine-tooth hacksaw or cut off machine.



Clean hose bore. Hose must be stripped of its rubber cover before inserting into socket.

STEP 1A - SKIVE

Locate skiving point by putting hose end next to socket as shown. Measure from hose end of socket to notch on socket.

Skive Hose By Hand:

Cut rubber cover around down to wire reinforcement with a knife. Slit lengthwise.

Skive Tool: Use the correct size hose cover skiving tool. Mount the tool in a vise. Push the hose over the mandrel. Rotate the hose clockwise until it bottoms or secure hose in a vise and attach auger to the skive tool. Insert mandrel into the hose and rotate clockwise until it bottoms.

STEP 2 - CLEAN HOSE

Raise flap and pull off with pliers. Clean excess rubber off wire reinforcement with wire brush or soft wire wheel. Do not fray or flare wire reinforcement when brushing.

Hydraulic Hose Type A

STEP 3 - INSTALL SOCKET

Sockets for hose fittings are furnished with internal annular grooved design. Install socket by pushing hose into socket with a back and forth rocking and clockwise twisting motion until hose bottoms on shoulder of socket.

An alternate method is to insert the hose in a vise. Install socket by pushing onto the hose with a back and forth rocking and clockwise twisting motion until the hose bottoms on the shoulder of socket. Back off 1/4 turn.

A rawhide hammer or similar tool may be used to tap the socket onto the hose but avoid damage to internal socket threads. Be sure not to damage hose cover or wire reinforcement.

STEP 4 - APPLY LUBRICANT

Dip hose end of nipple into Hose-Oil or other heavy oil up to the hex . When assembling fittings of 316 stainless steel lubricate the threads of both the socket and nipple with Dow Corning Molykote G-n or equivalent metal assembly lubricant.

STEP 5 - ASSEMBLE/INSPECT

Screw nipple clockwise into socket and hose. Line up hexes and inspect.

To Disassemble

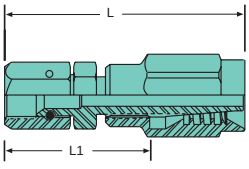
Disassemble in reverse order of assembly.

Installation Instructions

Hydraulic Hose, Type AT

STEP 1 - HOSE PREPARATION

Determine overall length of hose assembly using the fitting dimensional tables. Subtract the L1 dimension from the L dimension to get the appropriate cut off allowance. Mark and cut hose using fine-tooth hacksaw or cut off machine.



Clean hose bore. Hose must be stripped of its rubber cover before inserting into socket.

STEP 2 - INSTALL SOCKET

Sockets for hose fittings are furnished with internal annular grooved design. Install socket by pushing hose into socket with a back and forth rocking and clockwise twisting motion until hose bottoms on shoulder of socket.

An alternate method is to insert the hose in a vise. Install socket by pushing onto the hose with a back and forth rocking and clockwise twisting motion until the hose bottoms on the shoulder of socket.

A rawhide hammer or similar tool may be used to tap the socket onto the hose but avoid damage to internal socket threads. Be sure not to damage hose cover or wire reinforcement.

STEP 3 - APPLY LUBRICANT

Dip hose end of nipple into Hose-Oil or other heavy oil up to the hex . When assembling fittings of 316 stainless steel lubricate the threads of both the socket and nipple with Dow Corning Molykote G-n or equivalent metal assembly lubricant.

STEP 4 - ASSEMBLE/INSPECT

Screw nipple assembly into socket using wrench on nipple hex until nipple hex shoulders against socket.

Place socket in vice and screw in hose counterclockwise until hose bottoms back hose out 1/2 turn.

To Disassemble

Disassemble in reverse order of assembly.

Installation Instructions

Hydraulic Hose DOT/100R5

STEP 1 - HOSE PREPARATION

Cut hose to length required with fine-tooth hacksaw or cut-off wheel. Clean hose bore. Blow out shavings or flush out with solvent or water that is hose compatible.

STEP 2 - APPLY LUBRICANT

Lubricate hose and nipple threads liberally with hose assembly lube or heavy weight oil. Do not oil hose cover. For oxygen hose or other assemblies where oil would contaminate the system, use liquid soap as the lubricant.

STEP 3 - ASSEMBLE

Put socket in vise. Screw hose counterclockwise into socket until hose bottoms. Back off 1/4 turn. This allows for expansion and eases re-assembly.

When assembling long lengths of hose, it may be necessary to put hose in vise just tight enough to prevent from turning, and screw socket into the hose counterclockwise until it bottoms.

STEP 4 - FINAL ASSEMBLY/INSPECTION

Screw nipple clockwise into socket and hose. Line up hexes and inspect.

Installation Instructions

Teflon Hose

STEP 1 - HOSE PREPARATION

Mark hose at cutoff point and wrap with masking or other suitable tape to prevent hose from fraying.

STEP 1A - HOSE PREPARATION

Cut square to length through taped area using a cut-off machine or fine-tooth hacksaw.

Remove tape and trim any loose wires flush with tube stock. Any burrs on the bore of the tube stock should be removed with a knife. Clean the hose bore. Sometimes wire braid will tend to "neck down" on one end and flare out, on the opposite end. This is a characteristic of wire braid hose. Slip two sockets back to back over the "necked down" end of the hose.

STEP 2 - INSTALL SOCKET AND SLEEVE

Push the sleeve over the end of the tube and under the wire braid by hand. Complete positioning of the sleeve by pushing the hose end against a flat surface.

STEP 3 - LUBRICATE

Lubricate nipple and socket threads. For stainless steel fittings, use a molydisulfide base lubricant. Lubricants containing chloride are not recommended. Other material combinations use standard petroleum lubricants. Hold the nipple with hex in vise.

Teflon Hose

STEP 4 - INSTALL NIPPLE

Push hose over nipple with twisting motion until seated against nipple chamfer. Push socket forward and hand start threading of socket to nipple.

Visually inspect to see that tube stock butts against the inside shoulder of the sleeve.

STEP 5 - FINAL ASSEMBLY/INSPECTION

Wrench tighten nipple hex until clearance with socket hex is 1/32" or less. Tighten further to align corners of nipple and socket hexes.

To Disassemble

Unscrew and remove nipple; slide socket back on hose by tapping against flat surface; remove sleeve with pliers. New sleeves are recommended upon reuse of the fitting.

Installation Instructions

Push-on Hose

STEP 1 - HOSE PREPARATION

Measure overall length of assembly and cut hose to length.

Clean the hose bore. Blow out shavings with shop air or flush with a solvent compatible with the hose construction.

Caution: Follow proper safety procedures.

STEP 2 - LUBRICATE

Oil inside of hose and outside of nipple LIBERALLY. Liquid soap can also be used.

STEP 3 - ASSEMBLE

Push hose on fitting until hose end bottoms underneath protective cap as shown.

STEP 4 - MEASURE AND INSPECT

Make sure hose is bottomed out under protective cap and there are no splits or cuts on surface cover of hose.

To Disassemble

Slit hose lengthwise from protective cap to end of nipple. Bend hose, then snap hose off with a quick tug.

Installation Instructions

Tapered Pipe Fittings

STEP 1 - CLEAN AND INSPECT

Before installation, both male and female threads must be examined and cleaned of any foreign substance or burrs.

STEP 2 - APPLY SEALANT/LUBRICANT

A sealant/lubricant is highly recommended. First, it enhances sealing by filling any voids in the threads. Second, it reduces the potential for galling or seizing if the threads are forced together by over-tightening. If galling occurs, the threads are damaged and may not seal. This damage also prevents disassembly and reassembly.

Recommended sealant/lubricants are graphite impregnated Teflon® tape, Vibraseal, and pastes and anaerobic liquids that are specifically manufactured for use with stainless steel threads. Apply the chosen sealant/lubricant according to the manufacturer's instructions.

If using tape, wrap the tape opposite the thread direction so it does not come unwrapped during installation.

STEP 3 - MANUAL THREADING

By hand, carefully thread the fitting into the mating port. Screw together until "finger tight" or slight resistance is felt.

STEP 4 - FINAL INSTALLATION

Mark the hex for reference. Continue turning with a wrench. Turn the number of 360 degree rotations indicated in the following table.

Pipe Thread Size	Full 360° turns after finger tight
1/8 - 27	2 - 3
1/4 - 18	2 - 3
3/8 - 18	2 - 3
1/2 - 14	2 - 3
3/4 - 14	2 - 3
1 - 11-1/2	1-1/2 - 2-1/2
1-1/4 - 11-1/2	1-1/2 - 2-1/2
1-1/2 - 11-1/2	1-1/2 - 2-1/2
2 - 11-1/2	1-1/2 - 2-1/2

Installation Instructions

Parallel Threaded Fittings

STEP 1 - CLEAN AND INSPECT

Before installation, the threads and o-ring should be inspected. The threads should be clean and burr-free. The o-ring should not be nicked or cut. Such damage could cause the o-ring to fail during use. If the o-ring is suspect, cut it off, being careful not to nick the threads or fitting body. Then, carefully roll the new o-ring over the threads. Inspect it to be sure no damage occurred during replacement.

STEP 2 - LUBRICATE

The threads should be lubricated to minimize the chance of galling. Use a small sample of hydraulic system fluid into which the fitting will be installed.

STEP 3 - MANUAL THREADING

Carefully hand thread the fitting into the port. For straight fittings, turn until the o-ring is completely in the recess and the retaining hex shoulder is in contact with the top of the port.

For adjustable fittings with back-up washers and lock nuts, be certain that the lock nut and washer are all the way back against the beginning of the thread, farthest from the end of the fitting.

STEP 4 - ALIGNMENT (SHAPES ONLY)

Unscrew the fitting up to one turn to align it in the desired final direction. Hold the fitting body secure with a wrench, and with another wrench, firmly seat the back-up washer and locknut snugly against the port.

Parallel Threaded Fittings

STEP 5 - FINAL ASSEMBLY

To "snug up" the assembly, turned the number of hex flats indicated in the following table.

Fitting Size	SAE Thread Size	Hex Flats
2	5/16 - 24	1.5
3	3/8 - 24	1.5
4	7/16 - 20	1.5
5	1/2 - 20	1.5
6	9/16 - 18	1.5
8	3/4 - 16	1.5
10	7/8 - 14	1.5
12	1 1/16 - 12	1.5
14	1 3/16 - 12	1.5
16	1 5/16 - 12	1.5
20	1 5/8 - 12	2.0
24	1 7/8 - 12	2.0
32	2 1/2 - 12	2.0

Installation Instructions

Weld & Braze Adapters

The weld used in joining a tube to a socket weld tube fitting is like any other type of "tee" weld. The root (i.e., the point of intersection of the outside of the tube and annular end area of the fitting) must be included in the weld zone.

Careful welding procedures are normally followed to assure that this root area is included in the weld. If penetration is not achieved, the joint will have two built-in stress risers that may greatly reduce the strength of the weld. Upon application of an extreme load, these stress risers could result in cracks that could propagate out through the weld or tube depending upon the direction of the greatest load.

Often to achieve full root penetration in TIG welding of stainless steels, a fusion pass will be made first, followed by a final pass utilizing a filler rod to achieve the desired fillet size.

Assembly

The codes applicable to the welding of socket weld fittings require that the tube be inserted into the socket until bottomed against the stop. The tube is then to be backed out approximately 1/16 of an inch and then welded.

If the tube is not backed out, but welded when against a flat bottom stop, the contraction of the weld fillet and fitting socket can combine to produce a static stress on the weld. During thermal transients, the fitting and the portion of the tube within the fitting may experience a differential rate of heating or cooling, again adding to the stress level in the weld.

Tacking

If the weld joint is to be "tacked" before welding, it is recommended that the "Tack" weld build-up be held to a minimum.

Excessive build-up on the "tack" may cause am interrupted final bead and a stress riser or lack of complete fusion.

Backing Gas

Backing gas is an inert gas used to flood the interior of the fittings and tube system during welding. It serves the same purpose internally as the shielding gas used in TIG or MIG welding. By reducing the interior oxygen level to as low as practicable, it also serves to control the combustion of contaminates that could affect weld quality. When a backing gas is not used and nearly 100% weld penetration is achieved, blisters will tend to form on the internal tube wall. This will result in scale which may later break loose. Therefore, in 0.050 wall or thinner tube or where the wall thickness is such that the selected weld process may burn through, the use of a backing gas is mandatory.

In most cases the backing gas will be argon or helium connected to the system through a control regulator. Flow rates, while small, should be high enough to purge the system. Welds should be made in downstream sequence from the gas connection.

Note that the entire system should be purged to insure that there are no openings that will allow air to be drawn into the system.

The use of backing gas, while often not mandatory, will give a better weld joint. This is because the effects of contaminate combustion by-products are eliminated and because the welds are made and cooled under a shielded atmosphere, thus eliminating internal scaling or blistering.

Welding Methods

316 Stainless Steels

May be welded by the TIG, MIG, or stick arc-weld process.

TIG welding is recommended as being best for welding Weld & Braze adapters systems because it allows better operator control of heat penetration and filler material deposition.

Stick arc welding is not recommended in many cases because of the likelihood of excessive burn-through and improper root penetration. In all cases where stick welding is used, it is recommended that backing gas be used.

MIG welding gives the same characteristics as stick electrode welding with faster deposition of the filler material. As this process runs "hotter" than the stick process, the use of a backing gas is mandatory. It should be noted that in welding the relatively small fitting sizes found in the Weld & Braze line, filler deposition rate economies are not a factor and therefore the MIG method is not commonly applied.

Carbide Precipitation

When unstabilized stainless steels are heated to 800° - 1500°F during welding, the chromium in the steel combines with the carbon to form chrome carbides which tend to form along the grain boundaries of the metal (carbide precipitation). This lowers the dissolved chromium content in these areas and thus lowers their corrosion resistance, making them vulnerable to intergranular corrosion. Carbide precipitation is reduced by holding the carbon content of the material to a very low value. This limits the amount of carbon available to combine with the chromium. The "L" series (extra low carbon) stainless steels are often used for this purpose, but their use reduces system design stress by approximately 15%. Weld & Braze adapters are made from a select 316 series with carbon content in the low range of 0.04 to 0.07 percent. This results in a welded fitting with good corrosion resistance and a high strength factor.

All Weld & Braze adapters in stainless steel are supplied in the solution-treated condition, capable of passing ASTM-A-262 Tests for Detecting Susceptibility to Intergranular Corrosion.

Arc Polarity

When welding Weld & Braze adapters, best results will be obtained by the following arc polarities:

TIG - Direct Current, straight polarity

MIG - Direct Current, reverse polarity

STICK - Polarity dependent on rod used

Installation Instructions

Koncentrik® Unions

STEP 1 - SNAP RING INSTALLATION

Perform welding operations, as needed, before installing teflon snap-ring. Welding temperatures will melt snap-ring.

Install teflon snap-ring into groove on tail piece. Work snap-ring evenly into groove. Inspect the seal to ensure an even band of metal is around the ring and in place.

STEP 2 - INSTALL NUT

Draw union nut over tail piece.

STEP 3 - ALIGNMENT

Align tube or pipe run to within 3° of union centerline.

STEP 4 - MANUAL THREADING

Tighten by hand until finger tight (approximately 30 in. lb.) Make a longitudinal mark on one of the flats of the union nut hex and continue it on to either the tail piece or thread piece.

Koncentrik® Unions

STEP 5 - FINAL ASSEMBLY

Finish installation by tightening the joint with wrench until the appropriate flats or torque value is reached.

Installation Torque

Size(s)	Flats From Finger Tight	Ft. Lbs.
4	1-1/2 – 2	60 – 65
6	1-1/2 – 2	60 – 65
1/8", 1/4", 10	1-1/4 – 1-3/4	60 – 65
1/2", 12	1-1/4 – 1-3/4	65 – 75
3/4", 16	1 – 1-1/2	65 – 75
20	1 – 1-1/2	65 – 75
1", 24	3/4 – 1	65 –75
1-1/4"	3/4 – 1	65 – 75
1-1/2", 32	1/4 – 1/2	65 – 75
2	1/4 – 1/2	65 – 75

To Disassemble

Carefully remove teflon snap-ring without damaging metal taper angle on tail piece. Reinstall new snap-ring as indicated in Step 1.

Pressure Tables

Hose, Hydraulic

SAE Type	Dash No.	Working Pressures
100R1-A	-3	3000
100R1-A	-4	2750
100R1-A	-5	2500
100R1-A	-6	2250
100R1-A	-6	2250
100R1-A	-8	2000
100R1-A	-10	1500
100R1-A	-12	1250
100R1-A	-14	1125
100R1-A	-16	1000
100R1-A	-20	625
100R1-A	-24	500
100R1-A	-32	375
100R1-AT	-3	3000
100R1-AT	-4	2750
100R1-AT	-5	2500
100R1-AT	-6	2250
100R1-AT	-8	2000
100R1-AT	-10	1500
100R1-AT	-12	1250
100R1-AT	-14	1125
100R1-AT	-16	1000
100R1-AT	-20	625
100R1-AT	-24	500
100R1-AT	-32	375
100R2-A	-3	5000
100R2-A	-4	5000
100R2-A	-5	4250
100R2-A	-6	4000
100R2-A	-8	3500
100R2-A	-10	2750
100R2-A	-12	2250
100R2-A	-14	2000

SAE Type	Dash No.	Working Pressures
100R2-A	-16	2000
100R2-A	-20	1625
100R2-A	-24	1250
100R2-A	-32	1125
100R2-AT	-3	5000
100R2-AT	-4	5000
100R2-AT	-5	4250
100R2-AT	-6	4000
100R2-AT	-8	3500
100R2-AT	-10	2750
100R2-AT	-12	2250
100R2-AT	-14	2000
100R2-AT	-16	2000
100R2-AT	-20	1625
100R2-AT	-24	1250
100R2-AT	-32	1125
100R4	-12	300
100R4	-16	250
100R4	-20	200
100R4	-24	150
100R4	-32	100
100R5	-4	3000
100R5	-5	3000
100R5	-6	2250
100R5	-8	2000
100R5	-10	1750
100R5	-12	1500
100R5	-16	800
100R5	-20	625
100R5	-24	500
100R5	-32	350

SAE Type	Dash No.	Working Pressures
100R7	-3	3000
100R7	-4	2750
100R7	-5	2500
100R7	-6	2250
100R7	-8	2000
100R7	-10	1500
100R7	-12	1250
100R7	-16	1000
100R8	-3	5000
100R8	-4	5000
100R8	-5	4500
100R8	-6	4000
100R8	-8	3500
100R8	-10	2750
100R9-A	-6	4500
100R9-A	-8	4000
100R9-A	-12	3000
100R9-A	-16	3000
100R9-A	-20	2500
100R9-A	-24	2000
100R9-A	-32	2000
100R9-AT	-6	4500
100R9-AT	-8	4000
100R9-AT	-12	3000
100R9-AT	-16	3000
100R9-AT	-20	2500
100R12	-6	4000
100R12	-8	4000
100R12	-10	4000
100R12	-12	4000
100R12	-16	4000
100R12	-20	3000
100R12	-24	2500
100R12	-32	2500
100R16	-4	5000
100R16	-6	4000
100R16	-8	3500
100R16	-10	2750
100R16	-12	2250
100R16	-16	2000
100R16	-24	1625

source: SAE J517

Hose, Teflon

Nominal Size	Standard Dash Size	True Bore Dash Size	Working Pressure
1/8	-2	-3	1500
3/16	-3	-4	1500
1/4	-4	-5	1500
5/16	-5	-6	1500
3/8	-6	-7	1500
13/32	n/a	-8	1000
1/2	-8	-10	800
5/8	-10	-12	800
3/4	-12	-14	800
7/8	-14	-16	800
1	-16	-18	800
1 1/4	-20	n/a	600

source: SAE J517

Pressure Tables

Tubing

Size (OD) x Wall	Brass Working Pressure	Stainless Welded Working Pressure	Stainless Seamless Working Pressure	Monel Alloy 400 Working Pressure
1/8 x .028	2700	6840	8550	8000
1/8 x .035	3600	8800	11000	10450
1/4 x .028	1250	3200	4000	3750
1/4 x .035	1600	4080	5100	4800
1/4 x .049	2500	6000	7500	7000
1/4 x .065	3500	8240	10300	9800
5/16 x .035	1250	3240	4050	
5/16 x .049	1900	4680	5850	
5/16 x .065	2700	6440	8050	
3/8 x .035	1050	2640	3300	3100
3/8 x .049	1550	3840	4800	4450
3/8 x .065	2150	5240	6550	6150
1/2 x .035	750	1750	2450	2300
1/2 x .049	1150	1960	3500	3300
1/2 x .065	1550	2800	4750	4450
1/2 x .083	2050	5000	6250	
5/8 x .049	900	2360	2950	
5/8 x .065	1200	3200	4000	
5/8 x .083	1600	4160	5200	
5/8 x .095	1850	4840	6050	
3/4 x .049	700	1920	2400	2250
3/4 x .065	1000	2640	3300	3050
3/4 x .083	1300	3400	4250	4000
3/4 x .095	1500	3960	4950	4600
3/4 x .109	1800	4640	5800	
7/8 x .049	600	1640	2050	
7/8 x .065	850	2240	2800	
7/8 x .083	1100	2880	3600	
7/8 x .095	1250	3360	4200	
7/8 x .109	1500	3880	4850	

Size (OD) x Wall	Brass Working Pressure	Stainless Welded Working Pressure	Stainless Seamless Working Pressure	Monel Alloy 400 Working Pressure
1 x .065	700	1920	2400	2250
1 x .083	950	2560	3150	2900
1 x .095	1100	2960	3650	3400
1 x .109	1300	3360	4200	3900
1 x .120	1400	3760	4700	4350
1-1/4 x .083		2000	2450	
1-1/4 x .095		2320	2850	
1-1/4 x .109		2640	3300	
1-1/4 x .120		2960	3650	
1-1/4 x .134		3280	4150	
1-1/4 x .156		3920	4900	
1-1/2 x .095		1920	2350	
1-1/2 x .109		2160	2700	
1-1/2 x .120		2400	3000	
1-1/2 x .134		2720	3400	
1-1/2 x .156		3200	4000	
1-1/2 x .188		3600	4900	
2 x .109		1600	2000	
2 x .120		1760	2200	
2 x .134		2000	2500	
2 x .156		2320	2900	
2 x .188		2560	3600	

source: ANSI B31.3 Code
Calculation Basis: Annealed, seamless T304 or T316 stainless steel tubing ASTM A-269 or equivalent. Annealed, seamless Monel Alloy 400 tubing ASTM B-165 or equivalent. System temperatures between -20°F and 100°F with allowable stress of 20,000 psi. Ultimate tensile strength of 75,000 psi. Safety factor of 4.

Pressure Tables

Ports & Threads

Tapered Thread							Parallel Thread			
Nominal	BSPT	NPT	Working Pressure, Brass		Working Pressure, Stainless		SAE	BSPP	Working Pressure, Stainless	
			Male	Female	Male	Female			Male	Female
1/8	1/8 - 28	1/8 - 27	5050	3250	10050	6550	5/16 - 24	1/8 - 28	6000	5500
1/4	1/4 - 19	1/4 - 18	4050	3350	8050	6650	7/16 - 20	1/4 - 19	6000	5400
3/8	3/8 - 19	3/8 - 18	3950	2650	7850	5350	9/16 - 18	3/8 - 19	6000	5400
1/2	1/2 - 14	1/2 - 14	3850	2450	7750	4950	3/4 - 16	1/2 - 14	6000	4800
3/4	3/4 - 14	3/4 - 14	3650	2350	7350	4650	1 1/16 - 12	3/4 - 14	4800	4200
1	1 - 11	1 11-1/2	2650	2250	5350	4450	1 5/16 - 12	1 - 11	3600	2400
1 1/4	1 1/4 - 11	1 1/4 - 11-1/2	3000	2500	6000	5000	1 5/8 - 12	1 1/4 - 11	3000	2000
1 1/2	1 1/2 - 11	1 1/2 - 11-1/2	2500	2300	5000	4600	1 7/8 - 12	1 1/2 - 11	2400	1800
2	2 - 11	2 - 11-1/2	1900	1900	3900	3900	2 1/2 - 12	2 - 11	1800	1500

source: ANSI/ASME B31.3

Pipe

Size (OD) x Wall	Working Pressure
1/8-10S	4537
1/8-40 & STD	6296
1/4-10S	4514
1/4-40 & STD	6111
3/8-10S	3611
3/8-40 & STD	5056
1/2-5S	2902
1/2-10S	3705
1/2-4, 40S & STD	4866
1/2-80, 80S, XS	6563
3/4-5S	2321
3/4-10S	2964
3/4-40, 40S & STD	4036
3/4-80, 80S, & XS	5500
1-5S	1854
1-10S	3108
1-40, 40S & STD	3793
1-80, 80S & XS	5105
1-160	6140
1 1/2-40, 40S & STD	2257
1 1/2-80, 80S & STD	3182
1 1/2-160	4619
2-40, 40S & STD	1902
2-80, 80S & XS	2747
2-160	4499

source: ASTM A312/ASME SA312 Welded Stainless Steel Pipe Pressure Ratings

Visit www.sspfittings.com for the controlled version of data.

Pressure Loss in SAE Tubes

Size (OD) x Wall	Dimensions				Pressure Loss (psig/foot) at Average Flow Velocity (FPS)																			
	OD (inch)	ID (inch)	Wall (inch)	Area (sq. in.)	1 FPS		2 FPS		3 FPS		4 FPS		5 FPS		10 FPS		15 FPS		20 FPS		25 FPS		30 FPS	
					Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM
1/8 x .028	0.125	0.069	.028	0.004	4.622	0.012	9.244	0.023	13.866	0.035	18.488	0.047	23.110	0.058	46.220	0.117	69.330	0.175	92.440	0.233	115.550	0.292	138.660	0.350
1/8 x .035	0.125	0.055	.035	0.002	7.274	0.007	14.548	0.015	21.822	0.022	29.096	0.030	36.370	0.037	72.740	0.074	109.110	0.111	145.480	0.148	181.850	0.185	218.220	0.222
3/16 x .028	0.188	0.132	.028	0.014	1.263	0.043	2.526	0.085	3.789	0.128	5.052	0.171	6.315	0.213	12.630	0.427	18.945	0.640	25.260	0.853	31.575	1.067	37.890	1.280
3/16 x .035	0.188	0.118	.035	0.011	1.580	0.034	3.160	0.068	4.740	0.102	6.320	0.136	7.900	0.170	15.800	0.340	23.700	0.510	31.600	0.680	39.500	0.850	47.400	1.020
1/4 x .028	0.25	0.194	.028	0.030	0.585	0.092	1.170	0.184	1.755	0.276	2.340	0.368	2.925	0.460	5.850	0.920	8.775	1.380	11.700	1.840	14.625	2.300	17.550	2.760
1/4 x .035	0.25	0.180	.035	0.025	0.679	0.079	1.358	0.158	2.037	0.237	2.716	0.316	3.395	0.395	6.790	0.790	10.185	1.185	13.580	1.580	16.975	1.975	20.370	2.370
1/4 x .049	0.25	0.152	.049	0.018	0.952	0.057	1.904	0.114	2.856	0.171	3.808	0.228	4.760	0.285	9.520	0.570	14.280	0.855	19.040	1.140	23.800	1.425	28.560	1.710
1/4 x .065	0.25	0.120	.065	0.011	1.528	0.035	3.056	0.070	4.584	0.105	6.112	0.140	7.640	0.175	15.280	0.350	22.920	0.525	30.560	0.700	38.200	0.875	45.840	1.050
5/16 x .028	0.312	0.256	.028	0.051	0.336	0.160	0.672	0.320	1.008	0.480	1.344	0.640	1.680	0.800	3.360	1.600	5.040	2.400	6.720	3.200	8.400	4.000	10.080	4.800
5/16 x .035	0.312	0.242	.035	0.046	0.376	0.143	0.752	0.286	1.128	0.429	1.504	0.572	1.880	0.715	3.760	1.430	5.640	2.145	7.520	2.860	9.400	3.575	11.280	4.290
5/16 x .049	0.312	0.214	.049	0.036	0.481	0.112	0.962	0.224	1.443	0.336	1.924	0.448	2.405	0.560	4.810	1.120	7.215	1.680	9.620	2.240	12.025	2.800	14.430	3.360
5/16 x .065	0.312	0.182	.065	0.026	0.664	0.081	1.328	0.162	1.992	0.243	2.656	0.324	3.320	0.405	6.640	0.810	9.960	1.215	13.280	1.620	16.600	2.025	19.920	2.430
3/8 x .028	0.375	0.319	.028	0.080	0.216	0.249	0.432	0.498	0.648	0.747	0.864	0.996	1.080	1.245	2.160	2.490	3.240	3.735	4.320	4.980	5.400	6.225	10.423	7.470
3/8 x .035	0.375	0.305	.035	0.073	0.237	0.228	0.474	0.456	0.711	0.684	0.948	0.912	1.185	1.140	2.370	2.280	3.555	3.420	4.740	4.560	5.925	5.700	11.025	6.840
3/8 x .049	0.375	0.277	.049	0.060	0.287	0.188	0.574	0.376	0.861	0.564	1.148	0.752	1.435	0.940	2.870	1.880	4.305	2.820	5.740	3.760	7.175	4.700	8.604	5.640
3/8 x .065	0.375	0.245	.065	0.047	0.367	0.147	0.734	0.294	1.101	0.441	1.468	0.588	1.835	0.735	3.670	1.470	5.505	2.205	7.340	2.940	9.175	3.675	10.998	4.410
1/2 x .035	0.5	0.430	.035	0.145	0.119	0.453	0.238	0.906	0.357	1.359	0.476	1.812	0.595	2.265	1.190	4.530	1.785	6.795	2.380	9.060	5.216	11.325	7.176	13.590
1/2 x .049	0.5	0.402	.049	0.127	0.136	0.396	0.272	0.792	0.408	1.188	0.544	1.584	0.680	1.980	1.360	3.960	2.040	5.940	2.720	7.920	6.674	9.900	7.806	11.880
1/2 x .065	0.5	0.370	.065	0.108	0.161	0.335	0.322	0.670	0.483	1.005	0.644	1.340	0.805	1.675	1.610	3.350	2.415	5.025	3.220	6.700	6.294	8.375	8.659	10.050
1/2 x .083	0.5	0.334	.083	0.088	0.197	0.273	0.394	0.546	0.591	0.819	0.788	1.092	0.985	1.365	1.970	2.730	2.955	4.095	3.940	5.460	4.925	6.825	9.841	8.190
5/8 x .035	0.625	0.555	.035	0.242	0.071	0.754	0.142	1.508	0.213	2.262	0.284	3.016	0.355	3.770	0.710	7.540	1.065	11.310	2.567	15.080	3.791	18.850	5.216	22.620
5/8 x .049	0.625	0.527	.049	0.218	0.079	0.680	0.158	1.360	0.237	2.040	0.316	2.720	0.395	3.400	0.790	6.800	1.185	10.200	2.737	13.600	4.045	17.000	5.565	20.400
5/8 x .065	0.625	0.495	.065	0.192	0.090	0.600	0.180	1.200	0.270	1.800	0.360	2.400	0.450	3.000	0.900	6.000	1.350	9.000	2.960	12.000	4.374	15.000	6.018	18.000
5/8 x .083	0.625	0.459	.083	0.165	0.104	0.516	0.208	1.032	0.312	1.548	0.416	2.064	0.520	2.580	1.040	5.160	1.560	7.740	3.251	10.320	4.807	12.900	6.614	15.480
5/8 x .095	0.625	0.435	.095	0.149	0.116	0.463	0.232	0.926	0.348	1.389	0.464	1.852	0.580	2.315	1.160	4.630	1.740	6.945	3.479	9.260	5.141	11.575	7.073	13.890
3/4 x .035	0.75	0.680	.035	0.363	0.048	1.132	0.096	2.264	0.144	3.396	0.192	4.528	0.240	5.660	0.480	11.320	1.203	16.980	1.990	22.640	2.941	28.300	4.047	33.960
3/4 x .049	0.75	0.652	.049	0.334	0.052	1.041	0.104	2.082	0.156	3.123	0.208	4.164	0.260	5.205	0.520	10.410	1.268	15.615	2.098	20.820	3.100	26.025	4.265	31.230
3/4 x .065	0.75	0.620	.065	0.302	0.057	0.941	0.114	1.882	0.171	2.823	0.228	3.764	0.285	4.705	0.570	9.410	1.350	14.115	2.234	18.820	3.301	23.525	4.542	28.230
3/4 x .083	0.75	0.584	.083	0.268	0.065	0.835	0.130	1.670	0.195	2.505	0.260	3.340	0.325	4.175	0.650	8.350	1.455	12.525	2.407	16.700	3.558	20.875	4.895	25.050
3/4 x .095	0.75	0.560	.095	0.246	0.070	0.768	0.140	1.536	0.210	2.304	0.280	3.072	0.350	3.840	0.700	7.680	1.053	11.520	2.537	15.360	3.749	19.200	5.158	23.040
3/4 x .109	0.75	0.532	.109	0.222	0.078	0.693	0.156	1.386	0.234	2.079	0.312	2.772	0.390	3.465	0.780	6.930	1.166	10.395	2.705	13.860	3.997	17.325	5.500	20.790
7/8 x .035	0.875	0.805	.035	0.509	0.034	1.587	0.068	3.174	0.102	4.761	0.136	6.348	0.170	7.935	0.340	15.870	0.974	23.805	1.612	31.740	2.382	39.675	3.277	47.610
7/8 x .049	0.875	0.777	.049	0.474	0.036	1.478	0.072	2.956	0.108	4.434	0.144	5.912	0.180	7.390	0.360	14.780	1.018	22.170	1.685	29.560	2.490	36.950	3.425	44.340
7/8 x .065	0.875	0.745	.065	0.436	0.040	1.359	0.080	2.718	0.120	4.077	0.160	5.436	0.200	6.795	0.400	13.590	1.073	20.385	1.776	27.180	2.624	33.975	3.610	40.770
7/8 x .083	0.875	0.709	.083	0.395	0.044	1.231	0.088	2.462	0.132	3.693	0.176	4.924	0.220	6.155	0.440	12.310	1.142	18.465	1.889	24.620	2.792	30.775	3.841	36.930
7/8 x .095	0.875	0.685	.095	0.369	0.047	1.149	0.094	2.298	0.141	3.447	0.188	4.596	0.235	5.745	0.470	11.490	1.192	17.235	1.970	22.980	2.914	28.725	4.010	34.470
7/8 x .109	0.875	0.657	.109	0.339	0.051	1.057	0.102	2.114	0.153	3.171	0.204	4.228	0.255	5.285	0.510	10.570	1.256	15.855	2.078	21.140	3.071	26.425	4.225	31.710
1 x .035	1	0.930	.035	0.679	0.025	2.117	0.050	4.234	0.075	6.351	0.100	8.468	0.125	10.585	0.400	21.170	0.813	31.755	1.346	42.340	1.989	52.925	2.736	63.510
					INTAKE LINES								RETURN LINES				HIGH PRESSURE LINES							
					FLOWS ARE LAMINAR								FLOWS ARE TRANSITIONAL				FLOWS ARE TURBULENT							

Pressure Loss in SAE Tubes

Size (OD) x Wall	Dimensions				Pressure Loss (psig/foot) at Average Flow Velocity (FPS)																	
	OD (inch)	ID (inch)	Wall (inch)	Area (sq. in.)	1 FPS		2 FPS		3 FPS		4 FPS		5 FPS		10 FPS		15 FPS		20 FPS		25 FPS		30 FPS	
					Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM
1 x .049	1	0.902	.049	0.639	0.027	1.992	0.054	3.984	0.081	5.976	0.108	7.968	0.135	9.960	0.416	19.920	0.845	29.880	1.398	39.840	2.066	49.800	2.843	59.760
1 x .065	1	0.870	.065	0.594	0.029	1.853	0.058	3.706	0.087	5.559	0.116	7.412	0.145	9.265	0.435	18.530	0.884	27.795	1.463	37.060	2.162	46.325	2.974	55.590
1 x .083	1	0.834	.083	0.546	0.032	1.703	0.064	3.406	0.096	5.109	0.128	6.812	0.160	8.515	0.320	17.030	0.932	25.545	1.542	34.060	2.279	42.575	3.135	51.090
1 x .095	1	0.810	.095	0.515	0.034	1.606	0.068	3.212	0.102	4.818	0.136	6.424	0.170	8.030	0.340	16.060	0.967	24.090	1.599	32.120	2.364	40.150	3.252	48.180
1 x .109	1	0.782	.109	0.480	0.036	1.497	0.072	2.994	0.108	4.491	0.144	5.988	0.180	7.485	0.360	14.970	1.010	22.455	1.671	29.940	2.470	37.425	3.398	44.910
1 x .120	1	0.760	.120	0.454	0.038	1.414	0.076	2.828	0.114	4.242	0.152	5.656	0.190	7.070	0.380	14.140	1.047	21.210	1.732	28.280	2.559	35.350	3.521	42.420
1-1/8 x .049	1.125	1.027	.049	0.828	0.021	2.582	0.042	5.164	0.063	7.746	0.084	10.328	0.105	12.910	0.353	25.820	0.719	38.730	1.189	51.640	1.757	64.550	2.417	77.460
1-1/8 x .065	1.125	0.995	.065	0.778	0.022	2.424	0.044	4.848	0.066	7.272	0.088	9.696	0.110	12.120	0.368	24.240	0.748	36.360	1.237	48.480	1.828	60.600	2.515	72.720
1-1/8 x .083	1.125	0.959	.083	0.722	0.024	2.252	0.048	4.504	0.072	6.756	0.096	9.008	0.120	11.260	0.385	22.520	0.783	33.780	1.295	45.040	1.914	56.300	2.633	67.560
1-1/8 x .095	1.125	0.935	.095	0.687	0.025	2.140	0.050	4.280	0.075	6.420	0.100	8.560	0.125	10.700	0.397	21.400	0.808	32.100	1.337	42.800	1.975	53.500	2.718	64.200
1-1/8 x .109	1.125	0.907	.109	0.646	0.027	2.014	0.054	4.028	0.081	6.042	0.108	8.056	0.135	10.070	0.413	20.140	0.839	30.210	1.389	40.280	2.052	50.350	2.823	60.420
1-1/8 x .120	1.125	0.885	.120	0.615	0.028	1.918	0.056	3.836	0.084	5.754	0.112	7.672	0.140	9.590	0.426	19.180	0.865	28.770	1.432	38.360	2.116	47.950	2.911	57.540
1-1/4 x .049	1.25	1.152	.049	1.042	0.017	3.249	0.034	6.498	0.051	9.747	0.068	12.996	0.085	16.245	0.306	32.490	0.622	48.735	1.030	64.980	1.522	81.225	2.094	97.470
1-1/4 x .065	1.25	1.120	.065	0.985	0.018	3.071	0.036	6.142	0.054	9.213	0.072	12.284	0.090	15.355	0.317	30.710	0.645	46.065	1.067	61.420	1.576	76.775	2.169	92.130
1-1/4 x .083	1.25	1.084	.083	0.923	0.019	2.877	0.038	5.754	0.057	8.631	0.076	11.508	0.095	14.385	0.330	28.770	0.672	43.155	1.111	57.540	1.642	71.925	2.259	86.310
1-1/4 x .095	1.25	1.060	.095	0.882	0.020	2.751	0.040	5.502	0.060	8.253	0.080	11.004	0.100	13.755	0.340	27.510	0.691	41.265	1.143	55.020	1.689	68.775	2.323	82.530
1-1/4 x .109	1.25	1.032	.109	0.836	0.021	2.607	0.042	5.214	0.063	7.821	0.084	10.428	0.105	13.035	0.351	26.070	0.714	39.105	1.182	52.140	1.746	65.175	2.402	78.210
1-1/4 x .120	1.25	1.010	.120	0.801	0.022	2.497	0.044	4.994	0.066	7.491	0.088	9.988	0.110	12.485	0.361	24.970	0.734	37.455	1.214	49.940	1.794	62.425	2.468	74.910
1-1/2 x .065	1.5	1.370	.065	1.474	0.012	4.595	0.024	9.190	0.036	13.785	0.048	18.380	0.060	22.975	0.247	45.950	0.501	68.925	0.829	91.900	1.225	114.875	1.686	137.850
1-1/2 x .083	1.5	1.334	.083	1.398	0.012	4.357	0.024	8.714	0.036	13.071	0.048	17.428	0.060	21.785	0.255	43.570	0.518	65.355	0.857	87.140	1.267	108.925	1.743	130.710
1-1/2 x .095	1.5	1.310	.095	1.348	0.013	4.201	0.026	8.402	0.039	12.603	0.052	16.804	0.065	21.005	0.261	42.010	0.530	63.015	0.877	84.020	1.296	105.025	1.783	126.030
1-1/2 x .109	1.5	1.282	.109	1.291	0.013	4.024	0.026	8.048	0.039	12.072	0.052	16.096	0.065	20.120	0.358	40.240	0.545	60.360	0.901	80.480	1.331	100.600	1.832	120.720
1-1/2 x .120	1.5	1.260	.120	1.247	0.140	3.887	0.280	7.774	0.420	11.661	0.560	15.548	0.700	19.435	0.274	38.870	0.557	58.305	0.921	77.740	1.361	97.175	1.872	116.610
1-3/4 x .065	1.75	1.620	.065	2.061	0.008	6.425	0.016	12.850	0.024	19.275	0.032	25.700	0.040	32.125	0.200	64.250	0.406	96.375	0.672	128.500	0.994	160.625	1.367	192.750
1-3/4 x .083	1.75	1.584	.083	1.971	0.009	6.143	0.018	12.286	0.027	18.429	0.036	24.572	0.045	30.715	0.206	61.430	0.418	92.145	0.692	122.860	1.022	153.575	1.406	184.290
1-3/4 x .095	1.75	1.560	.095	1.911	0.009	5.958	0.018	11.916	0.027	17.874	0.036	23.832	0.045	29.790	0.210	59.580	0.426	89.370	0.705	119.160	1.042	148.950	1.433	178.740
1-3/4 x .109	1.75	1.532	.109	1.843	0.009	5.746	0.018	11.492	0.027	17.238	0.036	22.984	0.045	28.730	0.214	57.460	0.436	86.190	0.721	114.920	1.066	143.650	1.466	172.380
1-3/4 x .120	1.75	1.510	.120	1.791	0.010	5.582	0.020	11.164	0.030	16.746	0.040	22.328	0.050	27.910	0.218	55.820	0.444	83.730	0.734	111.640	1.085	139.550	1.493	167.460
2 x .065	2	1.870	.065	2.746	0.006	8.561	0.012	17.122	0.018	25.683	0.024	34.244	0.050	42.805	0.167	85.610	0.340	128.415	0.562	171.220	0.831	214.025	1.143	256.830
2 x .083	2	1.834	.083	2.642	0.007	8.235	0.014	16.470	0.021	24.705	0.028	32.940	0.051	41.175	0.171	82.350	0.348	123.525	0.576	164.700	0.851	205.875	1.171	247.050
2 x .095	2	1.810	.095	2.573	0.007	8.021	0.014	16.042	0.021	24.063	0.028	32.084	0.052	40.105	0.174	80.210	0.354	120.315	0.585	160.420	0.865	200.525	1.190	240.630
2 x .109	2	1.782	.109	2.494	0.007	7.774	0.014	15.548	0.021	23.322	0.028	31.096	0.053	38.870	0.177	77.740	0.361	116.610	0.597	155.480	0.882	194.350	1.241	233.220
2 x .120	2	1.760	.120	2.433	0.007	7.584	0.014	15.168	0.021	22.752	0.028	30.336	0.054	37.920	0.180	75.840	0.366	113.760	0.606	151.680	0.896	189.600	1.233	227.520
2 x .134	2	1.732	.134	2.356	0.007	7.344	0.015	14.689	0.022	22.033	0.029	29.377	0.055	36.722	0.184	73.443	0.374	110.165	0.619	146.886	0.914	183.608	1.258	220.329
					INTAKE LINES								RETURN LINES				HIGH PRESSURE LINES							
					FLOWS ARE LAMINAR								FLOWS ARE TRANSITIONAL				FLOWS ARE TURBULENT							

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Size (OD) x Wall	Material and Dimensions				Pressure Loss (psig/foot) at Average Flow Velocity (FPS)																			
	OD (inch)	ID (inch)	Wall (inch)	Area (sq. in.)	1 FPS		2 FPS		3 FPS		4 FPS		5 FPS		10 FPS		15 FPS		20 FPS		25 FPS		30 FPS	
					Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM
1/8-10S	0.405	0.307	0.049	0.074	0.233	0.231	0.466	0.462	0.699	0.693	0.932	0.924	1.165	1.155	2.330	2.310	3.495	3.465	4.660	4.620	5.825	5.775	10.935	6.930
1/8-40 & STD	0.405	0.269	0.068	0.057	0.304	0.177	0.608	0.354	0.912	0.531	1.216	0.708	1.520	0.885	3.040	1.770	4.560	2.655	6.080	3.540	7.600	4.425	9.120	5.310
1/8-80 & XS	0.405	0.215	0.095	0.036	0.476	0.113	0.952	0.226	1.428	0.339	1.904	0.452	2.380	0.565	4.760	1.130	7.140	1.695	9.520	2.260	11.900	2.825	14.280	3.390
1/4-10S	0.540	0.410	0.065	0.132	0.131	0.412	0.262	0.824	0.393	1.236	0.524	1.648	0.655	2.060	1.310	4.120	1.965	6.180	2.620	8.240	5.536	10.300	7.617	12.360
1/4-40 & STD	0.540	0.364	0.088	0.104	0.166	0.324	0.332	0.648	0.498	0.972	0.664	1.296	0.830	1.620	1.660	3.240	2.490	4.860	3.320	6.480	6.242	8.100	8.838	9.720
1/4-80 & XS	0.540	0.302	0.119	0.072	0.241	0.223	0.482	0.446	0.723	0.669	0.964	0.892	1.205	1.115	2.410	2.230	3.615	3.345	4.820	4.460	6.025	5.575	11.162	6.690
3/8-10S	0.675	0.545	0.065	0.233	0.074	0.727	0.148	1.454	0.222	2.181	0.296	2.908	0.370	3.635	0.740	7.270	1.110	10.905	2.625	14.540	3.879	18.175	5.336	21.810
3/8-40 & STD	0.675	0.493	0.091	0.191	0.091	0.595	0.182	1.190	0.273	1.785	0.364	2.380	0.455	2.975	0.910	5.950	1.365	8.925	2.975	11.900	4.397	14.875	6.049	17.850
3/8-80 & XS	0.675	0.423	0.126	0.141	0.123	0.438	0.246	0.876	0.369	1.314	0.492	1.752	0.615	2.190	1.230	4.380	1.845	6.570	2.460	8.760	5.324	10.950	7.325	13.140
1/2-5S	0.840	0.838	0.065	0.396	0.044	1.234	0.088	2.468	0.132	3.702	0.176	4.936	0.220	6.170	0.440	12.340		18.510	1.886	24.680	2.787	30.850	3.834	37.020
1/2-10S	0.840	0.823	0.830	0.357	0.048	1.112	0.096	2.224	0.144	3.336	0.192	4.448	0.240	5.560	0.480	11.120		16.680	2.013	22.240	2.974	27.800	4.092	33.360
1/2-40, 40S & STD	0.840	0.837	0.109	0.304	0.057	0.947	0.114	1.894	0.171	2.841	0.228	3.788	0.285	4.735	0.570	9.470		14.205	2.225	18.940	3.288	23.675	4.524	28.410
1/2-80, 80S, XS	0.840	0.837	0.147	0.234	0.074	0.730	0.148	1.460	0.222	2.190	0.296	2.920	0.370	3.650	0.740	7.300		10.950	2.619	14.600	3.870	18.250	5.324	21.900
1/2-160	0.840	0.836	0.187	0.171	0.101	0.532	0.202	1.064	0.303	1.596	0.404	2.128	0.505	2.660	1.010	5.320	1.520	7.980	3.192	10.640	4.717	13.300	6.490	15.960
1/2-XXS	0.840	0.834	0.294	0.050	0.347	0.155	0.694	0.310	1.041	0.465	1.388	0.620	1.735	0.775	3.470	1.550	5.198	2.325	6.884	3.100	10.172	3.875	13.995	4.650
3/4-5S	1.050	0.920	0.065	0.665	0.026	2.072	0.052	4.144	0.078	6.216	0.104	8.288	0.130	10.360	0.460	20.720	0.825	31.080	1.364	41.440	2.016	51.800	2.773	62.160
3/4-10S	1.050	0.884	0.083	0.614	0.028	1.913	0.056	3.826	0.084	5.739	0.112	7.652	0.140	9.565	0.426	19.130	0.867	28.695	1.434	38.260	2.119	47.825	2.915	57.390
3/4-40, 40S & STD	1.050	0.824	0.113	0.533	0.032	1.662	0.064	3.324	0.096	4.986	0.128	6.648	0.160	8.310	0.320	16.620	0.946	24.930	1.566	33.240	2.313	41.550	3.183	49.860
3/4-80, 80S, & XS	1.050	0.742	0.154	0.432	0.040	1.348	0.080	2.696	0.120	4.044	0.160	5.392	0.200	6.740	0.400	13.480	1.079	20.220	1.785	26.960	2.637	33.700	3.629	40.440
3/4-160	1.050	0.614	0.218	0.296	0.058	0.923	0.116	1.846	0.174	2.769	0.232	3.692	0.290	4.615	0.580	9.230	1.367	13.845	2.261	18.460	3.342	23.075	4.598	27.690
3/4-XXS	1.050	0.434	0.308	0.148	0.117	0.461	0.234	0.922	0.351	1.383	0.468	1.844	0.585	2.305	1.170	4.610	1.752	6.915	3.489	9.220	5.156	11.525	7.094	13.830
1-5S	1.315	1.185	0.065	1.103	0.016	3.438	0.032	6.876	0.048	10.314	0.064	13.752	0.080	17.190	0.296	34.380	0.601	51.570	0.994	68.760	1.469	85.950	2.021	103.140
1-10S	1.315	1.097	0.109	0.945	0.018	2.946	0.036	5.892	0.054	8.838	0.072	11.784	0.090	14.730	0.325	29.460	0.662	44.190	1.095	58.920	1.618	73.650	2.226	88.380
1-40, 40S & STD	1.315	1.049	0.133	0.864	0.020	2.694	0.040	5.388	0.060	8.082	0.080	10.776	0.100	13.470	0.344	26.940	0.700	40.410	1.158	53.880	1.711	67.350	2.351	80.820
1-80, 80S & XS	1.315	0.957	0.179	0.719	0.024	2.242	0.048	4.484	0.072	6.726	0.096	8.968	0.120	11.210	0.386	22.420	0.785	33.630	1.298	44.840	1.919	56.050	2.640	67.260
1-160	1.315	0.815	0.250	0.522	0.033	1.626	0.066	3.252	0.099	4.878	0.132	6.504	0.165	8.130	0.330	16.260	0.959	24.390	1.587	32.520	2.345	40.650	3.227	48.780
1-XXS	1.315	0.599	0.358	0.282	0.061	0.878	0.122	1.756	0.183	2.634	0.244	3.512	0.305	4.390	0.613	8.780	1.410	13.170	2.332	17.560	3.447	21.950	4.742	26.340
1 1/4-5S	1.660	1.530	0.065	1.839	0.009	5.731	0.018	11.462	0.027	17.193	0.036	22.924	0.045	28.655	0.215	57.310	0.437	85.965	0.722	114.620	1.067	143.275	1.468	171.930
1 1/4-10S	1.660	1.442	0.109	1.633	0.011	5.091	0.022	10.182	0.033	15.273	0.044	20.364	0.055	25.455	0.231	50.910	0.470	76.365	0.778	101.820	1.149	127.275	1.581	152.730
1 1/4-40, 40S & STD	1.660	1.380	0.140	1.496	0.012	4.662	0.024	9.324	0.036	13.986	0.048	18.648	0.060	23.310	0.244	46.620	0.173	69.930	0.822	93.240	1.214	116.550	1.671	139.860
1 1/4-80, 80S & STD	1.660	1.278	0.191	1.283	0.013	3.999	0.026	7.998	0.039	11.997	0.052	15.996	0.065	19.995	0.269	39.990	0.202	59.985	0.905	79.980	1.337	99.975	1.839	119.970
					INTAKE LINES								RETURN LINES				HIGH PRESSURE LINES							
					FLOWS ARE LAMINAR								FLOWS ARE TRANSITIONAL				FLOWS ARE TURBULENT							

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Pressure Loss in Pipe

Size (OD) x Wall	Material and Dimensions				Pressure Loss (psig/foot) at Average Flow Velocity (FPS)																	
	OD (inch)	ID (inch)	Wall (inch)	Area (sq. in.)	1 FPS		2 FPS		3 FPS		4 FPS		5 FPS		10 FPS		15 FPS		20 FPS		25 FPS		30 FPS	
					Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss	GPM
1 1/4-160	1.660	1.160	0.250	1.057	**0.016**	**3.294**	**0.032**	**6.588**	**0.048**	**9.882**	**0.064**	**13.176**	**0.080**	**16.470**	**0.304**	**32.940**	**0.617**	**49.410**	**1.021**	**65.880**	**1.509**	**82.350**	2.076	98.820
1 1/4-XXS	1.660	0.896	0.382	0.631	0.027	1.965	0.054	3.930	0.081	5.895	0.108	7.860	0.135	9.825	0.419	19.650	0.852	29.475	1.410	39.300	2.083	49.125	2.866	58.950
1 1/2-5S	1.900	1.770	0.065	2.461	0.007	7.670	0.014	15.340	0.021	23.010	0.028	30.680	0.053	38.350	0.179	76.700	0.364	115.050	0.602	153.400	0.890	191.750	1.224	230.100
1 1/2-10S	1.900	1.682	0.109	2.222	0.008	6.926	0.016	13.852	0.024	20.778	0.032	27.704	0.040	34.630	0.191	69.260	0.388	103.890	0.642	138.520	0.948	173.150	1.305	207.780
1 1/2-40, 40S & STD	1.900	1.610	0.145	2.036	0.008	6.346	0.016	12.692	0.024	19.038	0.032	25.384	0.040	31.730	0.201	63.460	0.410	95.190	0.678	126.920	1.001	158.650	1.378	190.380
1 1/2-80, 80S & STD	1.900	1.500	0.200	1.767	0.010	5.509	0.020	11.018	0.030	16.527	0.040	22.036	0.050	27.545	0.220	55.090	0.448	82.635	0.740	110.180	1.094	137.725	1.505	165.270
1 1/2-160	1.900	1.338	0.281	1.406	0.012	4.383	0.024	8.766	0.036	13.149	0.048	17.532	0.060	21.915	0.254	43.830	0.516	65.745	0.854	87.660	1.262	109.575	1.736	131.490
1 1/2-XXS	1.900	1.100	0.400	0.950	0.018	2.962	0.036	5.924	0.054	8.886	0.072	11.848	0.090	14.810	0.324	29.620	0.659	44.430	1.091	59.240	1.612	74.050	2.218	88.860
2-5S	2.375	2.245	0.065	3.958	0.004	12.339	0.008	24.678	0.012	37.017	0.027	49.356	0.040	61.695	0.133	123.390	0.270	185.085	0.447	246.780	0.661	308.475	0.909	370.170
2-10S	2.375	2.157	0.109	3.654	0.005	11.391	0.010	22.782	0.015	34.173	0.028	45.564	0.042	56.955	0.140	113.910	0.284	170.865	0.470	227.820	0.695	284.775	0.956	341.730
2-40, 40S & STD	2.375	2.067	0.154	3.356	0.005	10.460	0.010	20.920	0.015	31.380	0.020	41.840	0.044	52.300	0.147	104.600	0.300	156.900	0.496	209.200	0.733	261.500	1.008	313.800
2-80, 80S & XS	2.375	1.939	0.218	2.953	0.006	9.205	0.012	18.410	0.018	27.615	0.024	36.820	0.047	46.025	0.160	92.050	0.325	138.075	0.537	184.100	0.794	230.125	1.092	276.150
2-160	2.375	1.687	0.344	2.235	0.008	6.968	0.016	13.936	0.024	20.904	0.032	27.872	0.040	34.840	0.190	69.680	0.386	104.520	0.639	139.360	0.945	174.200	1.300	209.040
2-XXS	2.375	1.503	0.436	1.774	0.010	5.531	0.020	11.062	0.030	16.593	0.040	22.124	0.050	27.655	0.220	55.310	0.446	82.965	0.739	110.620	1.091	138.275	1.502	165.930
2 1/2-5S	2.875	2.709	0.083	5.764	0.003	17.967	0.006	35.934	0.009	53.901	0.021	71.868	0.031	89.835	0.105	179.670	0.214	269.505	0.354	359.340	0.523	449.175	0.719	539.010
2 1/2-10S	2.875	2.635	0.120	5.453	0.003	16.999	0.006	33.998	0.009	50.997	0.022	67.996	0.032	84.995	0.109	169.990	0.221	254.985	0.366	339.980	0.541	424.975	0.744	509.970
2 1/2-40, 40S & STD	2.875	2.469	0.203	4.788	0.004	14.924	0.008	29.848	0.012	44.772	0.024	59.696	0.035	74.620	0.118	149.240	0.240	223.860	0.397	298.480	0.587	373.100	0.807	447.720
2 1/2-80, 80S, XS	2.875	2.323	0.276	4.238	0.004	13.212	0.008	26.424	0.012	39.636	0.026	52.848	0.038	66.060	0.127	132.120	0.259	198.180	0.429	264.240	0.633	330.300	0.871	396.360
2 1/2-160	2.875	2.125	0.375	3.547	0.005	11.055	0.010	22.110	0.015	33.165	0.020	44.220	0.042	55.275	0.142	110.550	0.290	165.825	0.479	221.100	0.708	276.375	0.974	331.650
2 1/2-XXS	2.875	1.771	0.552	2.463	0.007	7.679	0.014	15.358	0.021	23.037	0.028	30.716	0.053	38.395	0.179	76.790	0.364	115.185	0.602	153.580	0.889	191.975	1.223	230.370
					INTAKE LINES								RETURN LINES				HIGH PRESSURE LINES							
					FLOWS ARE LAMINAR								FLOWS ARE TRANSITIONAL				FLOWS ARE TURBULENT							

Temperature Derating Factors

Stress Factors for Determining Tubing Pressure Ratings at Elevated Temperatures

Temperature Stress Factors					
Temperature		Stainless Steel		Copper	Monel® 400
°F	°C	304SS	316SS		
100	38	1.00	1.00	1.00	1.00
200	93	1.00	1.00	0.80	0.88
300	149	1.00	1.00	0.78	0.82
400	204	0.94	0.97	0.50	0.79
500	260	0.88	0.90	n/a	0.79
600	316	0.82	0.85	n/a	0.79
700	371	0.80	0.82	n/a	0.79
800	427	0.76*	0.80*	n/a	0.76
900	482	0.73*	0.78*	n/a	0.43
1000	538	0.69*	0.73*	n/a	n/a
1200	649	0.30*	0.37*	n/a	n/a

* The precipitation of chromium carbides potentially resulting in intergranular corrosion may occur when exposed to operating temperatures above 800°F. Consult the factory for further information.

Tube-Hose-Pipe Equivalent

SAE Tube Size OD (in) x Wall (in.)	SAE Hose Type	Pipe Size & Schedule	Working Pressure (PSIG)	Area (sq. in.)
1/8 x .028	-3 100R10-A	1/2XXS	5600	0.004
1/4 x .035	-3 100R10-A	1/2XXS	7000	0.002
3/16 x .028	-3 100R8	1/2XXS	3750	0.014
3/16 x .035	-3 100R8	1 /2XXS	4650	0.011
1/4 x .028	-4 100R2	1/2-160	2800	0.03
1/4 x .035	-3 100R2	1/2-160	3500	0.025
1/4 x .049	-3 100R2	1/2-XXS	4900	0.018
1/4 x .065	-3 100R10-A	1/2-XXS	6500	0.011
5/16 x .028	-5 100R1	1/2-80	2250	0.052
5/16 x .035	-4 100R5	1/2-160	2800	0.046
5/16 x .049	-4 100R2	1/2-160	3900	0.036
5/16 x .065	-3 100R10-A	1/2-XXS	5200	0.026
3/8 x .028	-6 100R1	3/8-80	1850	0.08
3/8 x. 035	-5 100R1	1/2-80	3250	0.073
3/8 x .049	-5 100R2	1/2-160	3250	0.06
3/8 x .065	-4 100R2	1/2-160	4350	0.047
1/2 x .035	-R 100R1	1/2-80	1750	0.145
1/2 x .049	-6 100R2	1/2-80	2450	0.127
1/2 x .065	-6 100R2	1/2-160	3250	0.108
1/2 x .083	-6 100R9	1/2-160	4150	0.088
5/8 x .035	-10 100R1	3/4-80	1400	0.242
5/8 x .049	-10 100R2	1/2-80	1950	0.218
5/8 x .065	-8 100R2	1/2-80	2600	0.192
5/8 x .083	-8 100R2	1/2-160	3300	0.165
5/8 x .095	-8 100R9-A	1/2-160	3800	0.149
3/4 x .035	-12 100R1	3/4-80	1150	0.363
3/4 x .049	-12 100R2	3/4-80	1650	0.334
3/4 x .065	-10 100R2	3/4-160	2450	0.302
3/4 x .083	-10 100R2	3/4-160	2750	0.268
3/4 x .095	-10 100R12	3/4-160	3150	0.246
3/4 x .109	-10 100R12	1-XXS	3650	0.222
7/8 x .035	-14 100R1	1-80	1000	0.509
7/8 x .049	-14 100R2	1-80	1400	0.474
7/8 x .065	-12 100R2	1-160	1850	0.436
7/8 x .083	-12 100R9-A	1-160	2350	0.395
7/8 x .095	-12 100R6-A	1-160	2700	0.369
7/8 x .109	-12 100R10	1-160	3100	0.339

SAE Tube Size OD (in) x Wall (in.)	SAE Hose Type	Pipe Size & Schedule	Working Pressure (PSIG)	Area (sq. in.)
1 x .035	-16 100R1	1-80	875	0.679
1 x .049	-16 100R2	1-80	1200	0.639
1 x .065	-14 100R2	1-80	1600	0.594
1 x .083	-14 100R2	1-160	2050	0.546
1 x .095	-16 100R9-A	1-160	2350	0.515
1 x .109	-16 100R9-A	1-160	2700	0.48
1 x .120	-16 100R9-A	1-160	3000	0.454
1-1/8 x .049	-20 100R2	1 1/4-80	1100	0.828
1-1/8 x .065	-16 100R2	1 1/4-80	1450	0.778
1-1/8 x .083	-16 100R2	1 1/4-160	1850	0.722
1-1/8 x .095	-16 100R9-A	1 1/4-160	2100	0.687
1-1/8 x .109	-16 100R9-A	1 1/4-160	2400	0.646
1-1/8 x .120	-16 100R9-A	1 1/4-XXS	2350	0.615
1-1/4 x .049	-20 100R2	1 1/4-80	1000	1.042
1-1/4 x .065	-20 100R2	1 1/4-80	1300	0.985
1-1/4 x .083	-20 100R9-A	1 1/4-160	1650	0.923
1-1/4 x .095	-20 100R9-A	1 1/4-160	1900	0.885
1-1/4 x .109	-20 100R9-A	1 1/4-160	2200	0.836
1-1/4 x .120	-20 100R9-A	1 1/4-160	2400	0.801
1-1/2 x .065	-24 100R2	1 1/2-80	1100	1.474
1-1/2 x .083	-20 100R9-A	1 1/2-80	1400	1.398
1-1/2 x .095	-20 100R9-A	1 1/2-160	1600	1.348
1-1/2 x .109	-20 100R9-A	1 1/2-160	1800	1.291
1-1/2 x .120	-20 100R9-A	1 1/2-160	2000	1.247
1-3/4 x .065	-32 100R2	2-80	925	2.061
1-3/4 x .083	-32 100R9-A	2-80	1200	1.197
1-3/4 x .095	-32 100R9-A	2-160	1350	1.911
1-3/4 x .109	-32 100R9-A	2-160	1550	1.843
1-3/4 x .120	-32 100R2	2-160	1700	1.791
2 x .065	-32 100R9-A	2-80	800	2.746
2 x .083	-32 100R9-A	2-80	1050	2.642
2 x .095	-32 100R9-A	2-80	1200	2.573
2 x .109	-32 100R9-A	2 1/2-160	1350	2.494
2 x .120	-32 100R9-A	2 1/2-160	1500	2.433
2 x .134	-32 100R9-A	2 1/2-160	1700	2.356

Media Compatibility

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
Acetaldehyde	0	0	2	3	1	1	1
Acetic Acid, Glacial	2	3	2	3	1	0	2
Hot, High Press.	3	3	0	3	1		2
Acetone	3	3	1	3	1	1	2
Acetophenone	3	3	1	3			2
Acetyl Acetone	3	3	1	3			2
Acetyl Chloride	3	3	3	1	1	2	2
Acetylene	1	2	1	1	1	2	1
Air, +300°F.	2	2	2	1	1	1	1
Aluminum Fluoride	1	1	1	1	1	3	2
Aluminum Nitrate	1	1	1	1	1	0	1
Alums-NH3CR -K	1	1	1	3			2
Amines - Mixed	3	2	2	3			1
Amonia Hot Gas	3	2	2	3			1
Ammonia Liquid & Cold Gas	1	1	1	3			1
Ammonium Carbonate	3	1	1	3	0	0	1
Ammonium Chloride	1	1	1	3	1	3	2
Ammonium Hydroxide	3	1	1	3	1	3	1
Ammonium Nitrate	1	1	1	3	1	3	1
Ammonium Phosphate	1	1	1	3	1	0	1
Ammonium Sulphate & Sulphide	1	1	1	3	1	3	1
Amyl Acetate	3	3	0	3	1	1	1
Amvl Alcohol	2	2	1	2	1	1	1
Anitine	3	3	2	0	1	3	1
Aniline Dyes	3	2	2	2	1	0	3
Aniline Oil	3	4	2	0			1
Arsenic Acid	1	1	1	1	1	0	1
Asphalt	2	2	3	1	1	0	1
ASTM Oil, No. 1	1	1	3	1			1
No.2	1	2	3	1			1
No.3	1	3	3	1			1
No.4	2	3	3	1			1
Automatic Transmission Fluid	1	2	3	1			1
Barium Chloride	1	1	1	1	1	2	1
Barium Hydroxide	1	1	1	1	1	0	1
Barium Sulfide	1	1	1	1	1	2	1
Benzoic Acid	3	3	3	1	1	1	3
Benzyl Alcohol	3	2	2	1	1	0	1
Bromine	3	3	3	1	3	3	3
Butane	1	1	3	1	1	1	1

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
Butanol (Butyl Alcohol)	1	1	2	1			1
Butyl Cellosolve	0	0	2	3			1
Butylene	2	0	3	1			1
Butyl Stearate	2	3	3	1			1
Butyraldehyde	3	3	2	3	1	1	0
Calcium Acetate	2	2	1	3	1	1	1
Calcium Hydroxide	1	1	1	1	1	2	1
Calcium Hypochlonte	2	2	1	1			2
Calcium Ndrate	1	1	1	1		1	1
Carbitol	2	2	2	2			1
Carbolic Acid Phenol	3	3	2	1			1
Carbonic Acid	2	1	1	1	1	3	1
Carbon Dioxide	1	1	1	1	1	1	1
Carbon Disulphide	3	3	3	1	0	2	1
Carbon Monoxide	1	2	1	1	1	1	1
Carbon Tetrachloride	2	3	3	1	1	2	2
Castor Oil	1	1	2	1	1	1	1
Cellosolve	3	3	2	3	0	1	1
China Wood Oil (Tung Oil)	1	2	3	1	1	1	1
Chlorinated Solvents	3	3	3	1			1
Chlorine (Gas)	3	2	3	2	1	2	3
Chlorine (Liquid)	3	3	2	1	1	3	3
Chloroacetone	3	3	1	3			3
Chlorobenzene	3	3	3	1	1	1	1
Chloroform	3	3	3	1	1	1	1
O-Chlorphenol	3	3	3	1			1
Chrome Plating Solutions	3	3	2	1			1
Chromic Acid	3	3	2	1	1	3	2
Citric Acid, 10%	1	1	1	1	1	3	1
Coke Oven Gas	3	3	3	1	1	0	1
Coolanol (Monsanto)	1	2	0	1			1
Copper Chloride	1	2	1	1		3	1
Copper Cyanide	1	1	1	1	1	3	1
Copper Sulphate	1	1	1	1	1	3	1
Creosote	1	2	3	1	1	3	1
Creosols	3	3	3	1	1	0	1
Crude Oil	2	3	3	1	1	0	2
Cutting Oil	1	2	3	1	1	1	1
Cyclohexanol	1	2	3	1			1
Cyclohexanone	3	3	2	3	1	0	1

Reference Table	
Recommended	1
Acceptable	2
Not Recommended	3
No Information	0

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
Detergent Water Solution	1	2	1	1			1
Diacetone Alcohol (Acetol)	3	3	1	3	1	1	1
Dibenzyl Ether	3	3	2	3	1	1	1
Diesel Oil	1	0	3	1	1	1	1
Diethylamine	2	2	2	3	1	1	1
Dioctyl Phthalate	3	3	2	2	1	1	1
Dowthemm A and E	3	3	3	1		1	1
Dry Cleaning Fluids	0	3	3	1			1
Ethanol (Grain Alcohol)	0	1	1	0	1	1	1
Ethyl Acetate (organic ester)	3	3	2	3	1	1	1
Ethyl Benzene	3	3	3	1	1	1	1
Ethyl Cellulose	2	2	2	3	1	1	1
Ethyl Chloride	1	1	1	1	1	2	1
Ethylene Glycol	1	1	1	1	1	1	1
Fatty Acida	2	2	0	1	1	0	1
Ferric Chloride	1	2	1	1	1	3	3
Ferric Nitrate	1	1	1	1	1	0	1
Formaldehyde	0	0	2	3	1	1	1
Freon (see refrigerant)							
Fuel Oil	1	2	3	1	1	1	2
Furfural	3	3	2	3	1	1	1
Galile Aeid	2	2	2	1			1
Gasoline	1	3	3	1	1	1	1
Glycerine-Glycerol	1	1	1	1	1	0	1
Glycols	1	1	1	1	1	1	1
Grease (Light)	1	3	3	1	1	1	1
Green Sulphate Liquor	2	2	1	1	1	0	1
Helium	1	1	1	1			1
Heptane	1	2	3	1	1	1	1
Hexaldehyde	3	1	1	3	1	1	1
Hexane	1	2	3	1	1	1	1
Hydraulic & Motor Oil, Petrolem base	1	2	3	1	1	1	1
Hydrochloric Acid, 15%	2	2	1	1	1	3	3
Hydrochloric Acid, 37%	3	3	3	3	1	3	3
Hydrofluosilicic Acid	2	2	1	1	1	3	3
Iso Octane	1	2	3	1	1	1	1
Isopropvl Acetate	3	3	2	3	1	1	1
Isopropyl Alcohol	2	2	1	1	1	2	1
Isopropyl Ether	2	3	3	3	1	1	1
Kerosene (Similar to RP-1 & JP-1)	1	2	3	1	1	1	1

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
Lactic Acid Cold	1	1	1	1	1	2	1
Hot	3	3	3	1			1
Lime Sulphur	3	1	1	1	2	0	2
Linseed Oil	1	0	0	1	1	2	1
Liquid Petroleum Gas (LPG)	1	2	3	1	1	1	1
Lubricating Oils (Diester)	2	0	3	1	1	1	1
Petroleum Base (SAE 10/20/30/40/50)	1	2	3	1	1	1	1
Lye Solutions	2	2	1	2			1
Magnesium Sulphite and Sulfate	1	1	1	1	1	1	1
Maleic Acid	3	3	3	1			1
Maleic Anhydride	3	3	3	1			1
Malic Acid	1	2	2	1	1	0	1
Mercury	1	1	1	1	1	3	1
Mercury Vapors	1	1	1	1			1
Methanol (Wood Alcohol)	1	1	1	3	1	1	1
Methyl Bromide	2	3	3	3	1	1	1
Methvl Butvl Ketone	3	3	1	3	0	1	1
Methylene Chloride	3	3	3	2	1	1	1
Methyl Ethyl Ketone (MEK)	3	3	1	3	1	1	1
Methyl Isobutyl Ketone (MIBK)	3	3	0	3	1	1	1
Methyl Salicylate	3	3	2	3	1	1	1
MIL-L-2104	1	2	3	1	1	1	1
MIL-S-3136 Type I Fuel	1	2	3	1			1
Type II Fuel	2	3	3	1			1
Type III Fuel	2	3	3	1			1
Type IV Oil, Low Swell	1	1	3	1			1
Type V Oil Med. Swell	1	2	3	1			1
Type VI Oil, High Swell	1	3	3	1			1
MIL-L-3150	1	2	3	1			1
MIL-G-3545	1	2	3	1			1
MIL-C-4339	1	3	3	1			1
MIL-L-4343	1	1	1	1			1
MIL-J-5161	2	3	3	1			1
MIL-G-5572	1	3	3	1			1
MIL-H-05606 (HFA)	1	2	3	1			1
MIL-H-5606 (J43)	1	2	3	1	1	1	1
MIL-J-5624 (JP-3, JP-4, JP-5)	1	3	3	1			1
MIL-L-6082	1	2	3	1			1
MIL-H-6083	1	1	3	1			1
MIL-L-6085	2	3	3	1			1

Reference Table	
Recommended	1
Acceptable	2
Not Recommended	3
No Information	0

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
MIL-A-6091	2	1	1	1			1
MIL-C-7024	1	3	3	1			1
MIL-G-7711	1	3	3	1			1
MIL-L-7808	2	3	3	1	1		1
MIL-L-7870	1	2	3	1			1
MIL-H-8446 (MLO-8515)	2	1	3	1			1
MIL-L-9000	1	2	3	1			1
MIL-L-9236	2	3	3	1			1
MIL-E-9500	1	1	1	1			1
MIL-G-10924	1	3	3	1			1
MIL-H-13910	1	1	1	1			1
MIL-L-15016	1	2	3	1			1
MIL-F-16884	1	0	3	1			1
MIL-F-17111	1	2	3	1			1
MIL-L-17331	1	2	3	1			1
MII-H-19457	3	3	1	2			1
MIL-L-21260	1	2	3	1			1
MIL-H-22251	2	2	1	3			1
MIL-L-23699	2	0	3	1			1
MIL-G-25013	1	2	3	1			1
MIL-G-25537	1	2	3	1			1
MIL-F-25558 (RJ-1)	1	2	3	1			1
MIL-R-25576 (RP-1)	1	2	3	1			1
MIL-L-25681	2	2	1	1			1
MIL-P-27402	2	2	1	3			1
MIL-H-27601	1	2	3	1			1
MIL-S-B1087	1	1	1	1			1
Minerals Oils	1	2	0	1	1	1	1
Naphtha	2	3	3	1	1	1	1
Naphthalene	3	3	3	1	1	0	1
Naphthenic Acid	2	3	3	1	1	0	1
Natural Gas	1	1	3	1	1	2	1
Nickel Acetate	2	2	1	3	1	1	1
Nickel Chloride	1	2	1	1	1	3	2
Nitrobenzene	3	3	3	2	1	1	1
Nitrogen	1	1	1	1	1	1	1
Octyl Alcohol	2	2	1	1	1	2	1
Olcic Acid	0	3	3	2	1	2	1
Oleum (Fuming Sulfuric Acid)	3	3	3	1	1	0	0
Ortho-Dichlorobenzene	3	3	3	1			1

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
Ozone	3	0	1	1			1
Palmitic Acid	1	2	2	1	1	3	1
Para-dichlorobenzene	3	3	3	1			1
Pentane	1	2	3	1			1
Perchloric Acid - 2N	3	2	2	1	1	0	1
Perchloroethylene	3	3	3	1	1	1	1
Phenol	3	3	3	1	1	3	1
Phosphoric Acid	3	0	1	1			1
Phosphorus Trichloride	3	3	1	1			1
Picric Acid, H2O Solution	1	1	1	1	1	3	1
Potassium Acetate	2	2	1	3	1	0	1
Potassium Cyanide	1	1	1	1	1	3	1
Potassium Dichromate	1	1	1	1	1	0	1
Potassium Hydroxide, 50%	2	2	1	3	1	3	1
Potassium Nitrate	1	1	1	1	1	2	1
Potassium Sulphate	1	1	1	1	1	2	1
Prestone Antifreeze	1	1	1	1			1
Producer Gas	1	2	3	1	1	1	1
Propane	1	2	3	1	1	1	1
Propionitrile	1	2	3	1			1
Propyl Acetate	3	3	2	3	0	1	1
Propyl Alcohol	1	1	1	1	1	2	1
Propylene	3	3	3	1			1
Pydraul, "E" Series	3	3	1	1			1
Pydraul, "C" Series	3	3	3	1			1
Refrigerant 11	2	3	3	2			1
Refrigerant 12	2	1	3	1			1
Refrigerant 22	3	2	3	2			1
Skydrol 500 A, B, C	3	3	1	3			1
Skydrol 7000 Type 2	3	3	1	2			1
Soap Solutions	1	2	1	1	1	1	1
Sodium Acetate	2	2	1	3	1	1	1
Sodium Bicarbonate (Baking Soda)	1	1	1	1	1	2	1
Sodium Borate	1	1	1	1	1	0	1
Sodium Bisulphate or Bisulphite	1	1	1	1	1	0	1
Sodium Chloride	1	1	1	1	1	3	1
Sodium Cyanide	1	1	1	3	1	3	1
Sodium Hydroxide 3 Molar	2	2	1	2	1	3	1
Sodium Hypochlorite (20%)	2	2	1	1	1	3	2
Sodium Metaphosphate	1	2	1	1	1	3	1

Reference Table	
Recommended	1
Acceptable	2
Not Recommended	3
No Information	0

MEDIA TO BE CARRIED	SEAL					ALLOY	
	Buna-N	Neoprene	EPR	Viton	Teflon	Brass	316 S.S.
Sodium Nitrate	2	2	1	3	1	2	2
Sodium Perborate	2	2	1	1	1	3	1
Sodium Peroxide	2	2	1	1	1	3	1
Sodium Phosphate (Mono.)	1	2	1	1	1	3	1
Sodium Silicate	1	1	1	1	1	1	1
Sodium Sulphate	1	1	1	1	1	1	1
Sodium Sulphide and Sulfite	1	1	1	1	1	1	1
Sodium Thiosulfate	2	1	1	1	1	3	1
Stannic Chloride	1	3	1	1	1	3	0
Stannous Chloride (15%)	1	1	1	1			1
Steam, Below 350°F	3	3	1	3	1	2	1
Stearic Acid	2	2	2	3	1	3	1
Stoddard Solvent	1	2	4	1	1	1	1
Styrene (Monomer)	3	3	4	2	1	2	2
SulphurTrioxide, Dry	3	3	2	1	1	0	1
Sulphuric Acid concentrated	3	3	3	1	1	3	2
Sulphurous Acid	2	2	2	1	1	3	1
Tannic Acid	1	2	1	1	1	3	1
Tar Bituminous	2	0	3	1	1	2	1
Tartaric Acid	1	2	2	1	1	0	2
Teritary Butyl Alcohol	2	2	2	1			1
Titanium Tetrachloride	2	3	3	1	0	3	2
Toluene	3	3	3	1	1	1	1
Transformer Oil	1	2	3	1	1	1	1
Transmission Fluid Type A	1	2	3	1	1	1	1
Trichloroethylene	0	3	3	1	1	1	1
Tricresyl Phosphate	3	3	1	2	1	0	2
Trierthanolamine	0	2	2	3			1
Tung Oil	1	2	3	1	1	1	1
Turpentine	1	3	3	1	1	2	1
Vinyl Chlorlde	3	3	2	3	1	3	1
Water	1	2	1	2	1	1	1
Wemco C	1	2	3	1			1
Xylene	3	3	3	1	1	0	2
Zinc Chloride	1	1	1	1	1	3	1
Zinc Sulphate	1	1	1	1	1	3	1

Reference Table	
Recommended	1
Acceptable	2
Not Recommended	3
No Information	0

Weights

SAE 37° Flared

Sizes	Tube to Tube Union							Tube to Male Pipe				
	J-U	J-LHU	J-BU	J-E	J-BEX	J-T	J-X	J-C	J-ME	J-ME-45	J-TTM	J-TMT
2	0.027	0.036	0.037	0.029	0.045	0.03	0.05	0.022	0.03	0.022	0.03	0.039
3	0.03	0.042	0.045	0.037	0.067	0.045	0.07	0.028	0.033	0.025	0.042	0.047
4	0.034	0.042	0.07	0.05	0.078	0.067	0.112	0.03	0.047	0.03	0.07	0.064
4-4								0.042	0.059	0.063		
5	0.041	0.05	0.081	0.067	0.1	0.095	0.12	0.036	0.056	0.047	0.081	0.072
5-4								0.048	0.067	0.069		
6-2								0.047	0.078	0.062		
6	0.056	0.072	0.114	0.078	0.123	0.098	0.115	0.047	0.087	0.061	0.12	0.081
6-6								0.07	0.101	0.107		
6-8								0.095	0.136	0.156		
8-4								0.092	0.18	0.127		
8	0.113	0.134	0.207	0.192	0.277	0.12	0.323	0.1	0.183	0.177	0.238	0.117
8-8								0.157	0.26	0.2		
8-12								0.194	0.365	0.303		
10	0.176	0.204	0.319	0.289	0.394	0.378	0.495	0.168	0.263	0.179	0.35	0.361
12-8								0.241	0.375	0.3		
12	0.296	0.355	0.481	0.436	0.458	0.604	0.786	0.266	0.4	0.316	0.554	0.54
16-12								0.333	0.613	0.45		
16	0.398	0.467	0.655	0.659	0.946	0.826	1.08	0.397	0.658	0.47	0.868	0.838
20	0.608	0.669	0.926	1.162	1.265	1.42	1.83	0.61	1.008	0.644	1.26	1.47
24	0.827	0.874	1.282	1.528	1.89	1.596	2.52	0.88	1.415		1.96	2.609
32	1.939	2.1	2.36	2.794	4.303	2.996	5.9	1.176	2.324	1.624	2.716	3.08

Sizes	Tube to Female Pipe				Components				
	J-FC	J-FE	J-TTF	J-TFT	J-TER	J-N	J-S	J-P	AJ-Z-2
2	0.042	0.067	0.108	0.094		0.008	0.0018	0.014	0.010
3	0.046	0.07	0.11	0.096		0.014	0.0023	0.017	0.017
4	0.049	0.075	0.112	0.098		0.025	0.0035	0.024	0.030
4-4	0.09	0.156							
5	0.047	0.075	0.118	0.103		0.03	0.0041	0.031	0.036
5-4									
6-2	0.093	0.088							
6	0.093	0.15	0.218	0.189	0.025	0.037	0.006	0.044	0.045
6-6	0.138	0.218							
6-8									
8-4		0.162			0.037				
8	0.156	0.234	0.318	0.276	0.037	0.061	0.013	0.073	0.078
8-8		0.397							
8-12									
10	0.266	0.398	0.539	0.468	0.05	0.087	0.017	0.132	0.109
12-8		0.39			0.076				
12	0.406	0.55	0.868	0.755		0.156	0.028	0.21	0.193
16-12					0.141				
16	0.533	1.125	1.432	1.375		0.217	0.05	0.311	0.350
20	0.907	1.375	2.063	1.79		0.506	0.086	0.47	0.700
24	1	3.48	1.596	4.35		0.655	0.134	1.1	0.850
32						1.383	0.246	1.43	1.725

Weights are in pounds.

Weights

SAE Flareless

Sizes	Tube to Tube Union						Tube to Male Pipe					Tube to Female Pipe			
	AM-U	AM-LHU	AM-BU	AM-E	AM-T	AM-X	AM-C	AM-ME	AM-ME-45	AM-TTM	AM-TMT	AM-FC	AM-FE	AM-TTF	AM-TFT
2	0.0443			0.0532	0.0659		0.0352	0.0402		0.0622		0.0515			
3	0.0530				0.1079		0.0405	0.0520	0.0413						
4	0.0924	0.0974	0.1456	0.1134	0.1690	0.2140	0.0598	0.0825	0.0700	0.1320	0.1320	0.0730	0.0922	0.1355	0.1314
4-4							0.0782	0.1220	0.0959			0.1118	0.1935		
5	0.1100			0.2734	0.3765		0.0729	0.2349	0.1810	0.1580	0.3380	0.0843	0.1133		
5-4							0.0897	0.1280							
6-2							0.0994	0.1406							
6	0.1426	0.1426	0.2351	0.1911	0.2664	0.3452	0.0994	0.1406	0.1211	0.2206	0.2181	0.1291	0.1948	0.2936	0.2806
6-6							0.1313	0.2088				0.1618	0.2478		
6-8							0.1998	0.3008				0.2838			
8-4							0.1633	0.2523				0.1897	0.2463		
8	0.2436	0.2424	0.3674	0.3281	0.4799	0.6057	0.1636	0.2523	0.2093	0.3906	0.3926	0.2048	0.3183	0.4666	0.4360
8-8							0.2193	0.3293				0.3263	0.4796		
8-12							0.2583								
10	0.3300	0.3780	0.4940	0.4780	0.6580		0.2450	0.3690	0.2810	0.5520	0.5645	0.3460	0.4760	0.6645	0.6281
12-8							0.3688	0.6016							
12	0.6176	0.5788	0.8226	0.7731	1.0834	1.3812	0.4038	0.7731	0.4534	0.8856	0.8945	0.5458	0.8128	1.0931	1.0694
14	0.6776			0.9405	1.2801		0.4538	0.7578	0.6066	1.1106	1.0589	0.5941	0.7827	1.1906	
16-12							0.5157	0.9247							
16	0.8784	0.7928	1.1040	1.1393	1.5691		0.5957	0.9097	0.7347	1.3269	1.3294	0.7930	1.2796	1.7694	1.6805
20	1.4523			2.1576	2.8937		1.1004	1.6555	1.2880			1.3955	1.9480	2.8025	
24	1.7253			2.6186	3.4797		1.1776	2.0442				1.4727	4.0627		
32	3.7434			4.9646			2.7055	4.0073							

Sizes	Tube to O-Ring Boss				Tube to Swivel			Tube to Tube Adapter		Components		
	AM-GC	AM-GE	AM-GRT	AM-GBT	AM-SE	AM-SRT	AM-SBT	AMJ-U	AMJ-BU	AM-Z-2	M-N	M-S
2	0.0355										0.0090	0.0015
3	0.0432	0.0835									0.0130	0.0025
4	0.0608	0.1019	0.1519	0.1592	0.1092	0.1585	0.1585	0.0643	0.1115	0.0135	0.0297	0.0033
4-4												
5	0.0745	0.2692								0.0205	0.0345	0.0040
5-4												
6-2												
6	0.1068	0.1645	0.2634	0.2611	0.1763	0.2531	0.2521	0.0995	0.1949	0.0273	0.0423	0.0050
6-6												
6-8	0.1508											
8-4												
8	0.1813	0.3309	0.4695	0.4686	0.3108	0.4471	0.4411	0.1402	0.2989	0.0610	0.0690	0.0093
8-8												
8-12	0.3269											
10	0.2430	0.4774	0.7007		0.4440					0.0940	0.0890	0.0120
12-8												
12	0.4264	0.6858	1.1508	1.0711	0.7036	1.2331	1.0064			0.1298	0.1622	0.0156
14											0.1889	0.0189
16-12	0.5497											
16	0.5537	1.1437	1.5259	1.5114	1.0487	2.0294				0.2560	0.2290	0.0207
20	1.0178	1.8409			2.0004					0.3650	0.4850	0.0255
24	1.1849	2.2797									0.5566	0.0311
32											0.9340	0.0483

Weights are in pounds.

Weights

Soft-Seal SAE

Size	Tube to Tube Union								Tube to Male Pipe		Tube to O-Ring Boss					
	S-U	S-BU	S-E	S-BE	S-BE-45	S-BRT	S-T	S-X	S-C	S-ME	S-GC	S-LGC	S-GE	S-GE-45	S-GRT	S-GBT
4	0.0571	0.1433	0.1045	0.1723	0.1446	0.218	0.1447	0.1577	0.0574	0.0848	0.0468	0.1124	0.1163	0.1	0.1469	0.1442
4-4								.	0.0748	0.1105	0.0795					
6	0.1072	0.2281	0.2398	0.3213	0.2722	0.3918	0.2494	0.308	0.0854	0.165	0.0992	0.1752	0.1496	0.1829	0.2891	0.241
6-6									0.1148	0.1795						
6-8									0.1813	0.1853	0.1114		0.2322			
8	0.17	0.3097	0.2708	0.5545	0.3602	0.5967	0.4389	0.495	0.1836	0.1953	0.1231	0.276	0.3611	0.2579	0.4131	0.4102
8-8									0.185	0.2756						
8-12									0.3659	0.3698	0.3722		0.6416			
10	0.2835	0.6293	0.4039	0.6329	0.5553	0.8113	0.5267	0.6339	0.2529	0.3391	0.303	0.4681	0.4728	0.4273	0.635	0.6152
12-8									0.3657	0.5675	0.3687		0.7174			
12	0.4505	0.7103	0.5629	0.9819	0.8506	1.1367	0.708	0.9151	0.3859	0.5427	0.4165	0.6822	0.975	0.6485	1.2302	0.972
16-12									0.5251	0.8838	0.6071		1.0423			
16	0.6409	0.9623	1.008	1.4098	1.0261	1.4961	1.075	2.1326	0.5973	0.8524	0.5979	0.9601	1.1071	0.8692	1.2492	1.1884
20	0.6594	1.1238	1.1677	1.583	1.2746	2.16	1.692	2.75	0.9354	1.0331	0.8622	1.8036	1.2402	0.9847	1.8203	1.8755
24	1.216	1.4856	1.5144	2.0832	1.6964	4.1908	1.9099		1.1761	1.3294	0.909	2.5198	1.5194	1.2592	2.0762	2.0762

Size	Tube to Swivel		Tube to Tube Adapter			Swivel Adapter		Component						
	S-SE	S-SRT	S-SBT	S-J	S-JS	SS-J	SS-GE	S-S	S-N	BN	S-FBZ	S-P	S-TER	S-Z-2
4	0.0989	0.1443	0.1443	0.0631	0.0572	0.0648	0.1025	0.0107	0.0355	0.0248	0.0525	0.0397		0.0126
4-4														
6	0.184	0.2759	0.2759	0.0984	0.0871	0.1013	0.2133	0.0127	0.0523	0.0497	0.0783	0.0751	0.0458	0.0224
6-6														
6-8														
8	0.2773	0.3314	0.3314	0.155	0.1387	0.161	0.1544	0.0237	0.0807	0.0579	0.0959	0.0995	0.0721	0.0422
8-8														
8-12														
10	0.4867	0.5134	0.5134	0.2614	0.2277	0.2773	0.4399	0.0402	0.1145	0.0816	0.229	0.2005	0.111	0.0676
12-8													0.1577	
12	0.625	0.8438	0.8438	0.3986	0.3581	0.4527	0.3575	0.0585	0.196	0.0973	0.3274	0.305		0.1142
16-12													0.293	
16	1.192	1.142	1.142	0.5848	0.5031	0.6293	0.8056	0.0737	0.2623	0.1189	0.4949	0.4471		0.178
20	1.2271	1.7088	1.7088	0.844		0.8496	1.059	0.092	0.292	0.1608	0.612	0.5872		0.2839
24	1.557	2.0571	2.0571	1.2381			1.7194	0.1382	0.4858	0.2243	0.846	0.8141		0.4162

Weights are in pounds.

Weights

Pipe Fittings and Adapters

Size	Threaded - Straight			
	GCU	GCFP	GP	CGP
2			0.0152	0.007
3			0.02	0.0106
4	0.0554		0.0275	0.016
4-6		0.1083		
5			0.0345	0.021
6-4	0.105	0.0665		
6	0.115		0.0475	0.027
6-8		0.14		
8-6	0.1675	0.205		
8-8			0.088	0.057
8-12		0.18		
10	0.2602	0.1649	0.117	0.85
12	0.4689	0.251	0.221	0.141
14			0.273	0.1865
16-12		0.57		
16			0.311	0.226
20			0.529	0.363
24			0.985	
32			1.31	

Threaded - Adapter		
Size	GEF	GCF
6-1/4		0.085
8-1/4		0.117
8-3/8	0.22	0.1465
8-1/2		0.216
10-1/4		0.171
10-3/8		0.169
10-1/2	0.38	0.215
12-1/2		0.251
12-3/4	0.603	0.33
16-1/2		0.301
16-3/4		0.4175
16-1	1.039	0.4763
20-1		0.332
20-1 1/4		0.42
24 - 1		1.35
24 - 1 1/2		1.44

Threaded-Tapered

Size	Threaded - Tapered														
	MF	MF-45	MM	FF	FF-45	HN	RA	HC	HP	CP	FFFF	FFF	FFM	FMF	PTR
1/8	0.066	0.053	0.06	0.0625		0.025		0.0415	0.0214	0.0064	0.098	0.079	0.1	0.131	
1/4 x 1/8						0.0687	0.125	0.077							0.0285
1/4	0.17	0.125	0.12	0.0625	0.1524	0.0615		0.1	0.0486	0.016	0.25	0.207	0.2592	0.256	
3/8 x 1/8						0.1		0.1225							0.055
3/8 x 1/4						0.1133	0.237	0.1225							0.0385
3/8	0.212	0.175	0.1805	0.211	0.2134	0.0875		0.1355		0.0285	0.325	0.264	0.375	0.4	
1/2 x 3/8						0.0156	0.237	0.22							0.0785
1/2 x 1/4						0.1931	0.23	0.2585							0.11
1/2	0.385	0.311	0.38	0.35	0.3792	0.156		0.247		0.035	0.596	0.475	0.6	0.628	
3/4 x 1/4							0.285								0.21
3/4 x 3/8															0.1725
3/4 x 1/2						0.3545	0.285	0.2955							0.125
3/4	0.6283	0.4325	0.5799	0.5799	0.5458	0.23		0.344	0.2632	0.145	0.8426	0.7125	0.9	1.1	
1 x 1/2							0.396								0.316
1 x 3/4							0.215								0.21
1	1.135	0.8375	1.0175	1.075	1.057	0.385		0.6366	0.48		1.52	1.335		2.175	
1-1/4 x 1						0.5632	0.6532								0.37
1 1/4	2.155			2.155		0.5632		0.75				1.27			
1 1/2				4.165		0.803		1.556				1.27			

Weights are in pounds.

Weights

Swivel Adapters

Size	Male Connector	Male Elbow	Male Elbow, 45	Female Connector	Female Elbow	O-Ring Boss Connector	O-Ring Boss Elbow
	PS - C	PS - ME	PS - ME-45	PS - FC	PS - FE	PS - GC	PS - GE
4-4	0.10	0.14	0.11	0.13	0.17	0.08	0.13
6-6	0.17	0.26	0.20	0.19	0.29	0.18	0.23
8-8	0.26	0.37	0.30	0.30	0.47	0.24	0.30
12	0.42	0.62	0.49	0.49	0.74	0.40	0.62
16	0.61	0.94	0.93	0.95	1.22	0.56	0.82
20	0.95	1.74	1.45	0.94		0.89	
24	1.19	2.01	1.52	1.09		1.05	
32	1.73	3.01	2.45	2.09		1.96	

Hydraulic Hose

Size	100R1 AT		100R2 A		100R2 AT		100R5		100R5 (mandrel)
	Female Swivel	Male Pipe	Female Swivel	Male Pipe	Female Swivel	Male Pipe	Female Swivel	Male Pipe	Female Swivel
	AH40250	AH40220	AH40750	AH40720	AH30050	AH30020	AH20050	AH20020	AH20250
2-4						0.14		0.07	
4-4	0.15	0.14	0.27	0.26	0.16	0.15	0.11	0.09	0.10
4-5								0.1	
4-6								0.13	
5-5							0.13		
6-4	0.19				0.2				
6-6	0.26	0.25	0.37	0.36	0.28	0.25	0.18	0.15	0.17
6-8								0.22	
8-6	0.30		0.44		0.32			0.20	
8-8	0.38	0.34	0.68	0.57	0.43	0.39	0.33		0.27
8-10							0.41	0.36	
10-8	0.47		0.59	0.53	0.53		0.35		
10-10	0.52						0.43		0.42
10-12	0.65						0.52		
12-8	0.58								
12-10								0.41	
12-12	0.78	0.60	1.12	1.08	0.76	0.70	0.65	0.49	0.57
16-16	1.17	0.98	1.91	1.79	1.28	1.07	0.88	0.69	0.68
20-20	3.27		3.38		2.9	2.3	1.57	1.01	1.29
24-24			4.10		3.64	2.71	2.00	1.32	1.61
32-32			6.27		6.17	5.05	3.52	2.00	

Weights are in pounds.

Weights

Teflon Hose

Size	Female Swivel	Male Pipe
	AH90050	AH90020
2-4		0.06
4-4	0.07	0.07
4-5		0.09
4-6		0.11
5-5	0.1	
6-6	0.12	0.11
6-8		0.17
8-8	0.21	0.2
8-10		0.25
10-10	0.23	
12-12	0.37	0.4
16-16	0.6	0.54
20-20	1.32	1.03

Push On

Size	Female Swivel	Male Pipe
	H80250	H80220
4-4	0.05	0.04
6-6	0.08	0.07
8-8	0.13	0.16
10-10	0.21	0.18
12-12	0.32	0.25

Size	MHC
1/8 x 1/8	0.02
1/8 x 1/4	0.03
1/4 x 1/8	0.04
1/4 x 1/4	0.05
1/4 x 3/8	0.055
3/8 x 1/4	0.09
3/8 x 3/8	0.093
3/8 x 1/2	0.08
1/2 x 3/8	0.16
1/2 x 1/2	0.15
1/2 x 3/4	0.14
3/4 x 1/2	0.25
3/4 x 3/4	0.2
3/4 x 1/2	0.23
1 x 3/4	0.43
1 x 1	0.41

Size	M2HC
1/8 x 1/8	0.09
1/8 x 1/4	0.03
1/4 x 1/8	0.04
1/4 x 1/4	0.05
1/4 x 3/8	0.06
3/8 x 1/4	0.08
3/8 x 3/8	0.08
3/8 x 1/2	0.1
1/2 x 3/8	0.14
1/2 x 1/2	0.17
1/2 x 3/4	0.23
3/4 x 1/2	0.27
3/4 x 3/4	0.25
3/4 x 1	0.44
1 x 3/4	0.49
1 x 1	0.5

Weld On

Size	Female Swivel	Male Pipe	Female Pipe
	BHJS	BHC	BHFC
1/4 x 4 (1/4)	0.07	0.05	0.09
3/8 x 6 (3/8)	0.09	0.08	0.13
1/2 x 8 (1/2)	0.16	0.12	0.26
5/8 x 10	0.22		
3/4 x 12 (3/4)	0.27	0.16	0.34
1 x 16 (1)	0.38	0.23	0.5
1-1/4 x 20 (1-1/4)	0.98	0.5	
1-1/2 x 24 (1-1/2)	1.31	0.67	
2 x 32 (2)	2.21	0.88	

Specification Listings

Thread Designs

Known As	Thread Design (Specification)	Port Design (Mates With This Port Design)
Tapered		
JIS PT (Japanese Pipe Thread)	JIS B0203. Same as BS 21, ISO 7/1, and DIN 2999	DIN 3852 Part 2, BS 5200
BSPT (British Standard Pipe Tapered)	BS 21. Same as ISO 7/1, DIN 2999, and JIS B0203	DIN 3852 Part 2, BS 5200
ISO 7/1	Same as BS 21, DIN 2999, and JIS B0203	DIN 3852 Part 2, BS 5200
NPT	ANSI/ASME B1.20.1	NPT & NPSM (female)
NPTF (Dryseal)	ANSI/ASME B1.20.3	SAE J476
Straight		
JIS Parallel Pipe	JIS B0202. Same as BS 2779, DIN 259, ISO 228/1	BS 5200, JIS 8363, BS 5380
BSPP (British Standard Pipe Parallel)	BS 2779. Same as ISO 228/1, DIN 259, and JIS B0202	BS 5200, JIS 8363, BS 5380
UN/UNF (Screw thread or Fine thread)	ANSI/ASME B1.1	
ISO 228/1	Same as BS 2779, DIN 259, and JIS B0202	BS 5200, JIS 8363, BS 5380
ISO 261 (Metric thread)	JIS B0207, ANSI B1.13M	DIN 3852 Part 1 & 3, ISO 6149, DIN 7631
NPSM	ANSI/ASME B1.20.1 note: NPSM and NPT are identical except NSPM is a straight thread and NPT is tapered.	NPT male with 30º taper
SAE (Straight thread boss)	ANSI B1.1, ISO 263	SAE J1926, ISO 11926

Port Designs

Known As	Thread Design (Specification)	Port Specification
BSPP Flat Face Port	ISO 228/1, BS 2779	DIN 3852 Part 2, Type C,
BSPT/JIS Tapered	ISO 7/1, BS 21, JIS B0203	JIS B8363
SAE Straight Thread O-Ring Port		SAE J1926, ISO 11926, MS16142
Four Bolt Split Flange		SAE J518
Metric ISO	ISO 261	ISO 6149-1, SAE 224-1, DIN 3852 Part 3
NPT	ANSI/ASME B1.20.1	
NPT/NPTF	ANSI/ASME B1.20.3	SAE J476

Fitting Designs

Known As	Thread Design Tube End	Fitting Design (Underlying Specification Governing Part/all of Fitting Geometry or Performance)
Tube Fittings		
Soft Seal	ANSI/ASME B1.1, ISO 263	SAE J1453, ISO 8434-3
Soft-Seal, Nav-Sea	ANSI/ASME B1.1	Navy Bureau of Ships 710 series
UltraFlare®	ANSI/ASME B1.1, ISO 263	NASA GP-425, SAE J514
SAE 37º Flared	ANSI/ASME B1.1, ISO 263	SAE J514, MIL-F-18866 515 series, ISO 8434-2
SAE Flareless	ANSI/ASME B1.1, ISO 263	SAE J514, MIL-F-18866 518 series
Pipe Fittings & Adapters		
Tapered Pipe Fitting	ANSI/ASME B1.20.1, B1.20.3, BS 21, JIS B0203 PT, ISO 7/1, or BS 21, DIN 2999	SAE J514
SAE Straight Thread Adapter	ANSI/ASME B1.1, ISO 263	SAE J514
Pipe Swivel	ANSI/ASME B1.20.1	SAE J514
Weld & Braze Adapter	N/A	ANSI B31.3
Koncentrik® Union	ANSI/ASME B1.20.1	ANSI B31.1.0, B16.11

Limited Lifetime Warranty

SSP guarantees all fittings, adapters and components to be free from defects in materials and workmanship. Additionally, SSP guarantees product performance to the published catalog specifications when properly installed according to the catalog selection and installation instructions. To initiate a warranty claim, suspected defective product must be returned to SSP with the nature of potential defect documented for factory evaluation. Any product with a determined defect in material or workmanship will be replaced with equivalent product at no charge.

This warranty comprises the sole and entire warranty pertaining to items provided hereunder. There is no other warranty, guarantee, express or implied representation of any kind whatsoever. All other warranties including, but not limited to, merchantability and fitness for purpose, whether express, implied, or arising by operation of law, course of dealing, or trade usage are hereby disclaimed. There are no warranties that extend beyond the description on the face hereof; and this warranty does not apply in cases of abuse, mishandling, or normal use depreciation. In no event, whether alleged to arise from breach of contract, express or implied warranty, by operation of law, negligence or otherwise, will SSP be liable for any incidental, consequential, lost property, or other special damages of any kind whatsoever. The exclusive, only remedy under this warranty is the replacement of determined defective parts as set forth above.

Safety Information

SSP Safety Reminders

All SSP products are designed and manufactured with safety in mind. The following is a limited list of general safety tips as reminders of good safety practices:

- *Do not install, tighten or loosen a fitting, adapter or component while the system is under pressure.*
- *Do not loosen a fitting, adapter or component to relieve or bleed system pressure.*
- *Always use a back-up wrench to hold the fitting body steady when tightening or loosening tube fitting nuts.*
- *Use proper thread lubricants and sealants on tapered pipe threads.*
- *Fitting and tubing or pipe material should be similar (stainless steel fittings on stainless steel tubing or pipe, brass fittings on copper tubing, etc.) with the tubing material being fully annealed.*
- *Do not weld tube fittings that are assembled. Prior to welding, remove all components such as nut, ferrule(s), o-ring, and seals. Protect the sealing and thread areas of the tube fitting by covering with a plug or another nut.*

To help ensure the safe and reliable performance of SSP fitting products, complete system design must be considered prior to the installation of the tubing, hose, pipe, and fittings. Determining the design compatibility of materials, media, flows, temperatures and pressures; as well as implementing proper installation, operation and maintenance of the system are the responsibilities of the systems' owners, designers and users.

Conversion Tables

Pressure

From	To	Multiply By
atmosphere (standard)	psi	14.696
bar	psi	14.5038
cm of mercury (0C)	psi	0.1934
cm of water (4C)	psi	0.014223
inch of mercury (32F)	psi	0.4912
Inch of water (68F)	psi	0.036063
kgf / cm^2	psi	14.223
kilopascal	psi	0.1450377
millibar	psi	0.0145
mm of Hg (0C)	psi	0.01934
pascal	psi	0.00014504
torr (mm of Hg, 0C)	psi	0.01934
atmosphere (standard)	inch of water (68F)	407.5173
bar	inch of water (68F)	402.1877
cm of mercury (0C)	inch of water (68F)	5.3629
cm of water (4C)	inch of water (68F)	0.3944
inch of mercury (32F)	inch of water (68F)	13.6209
kgf / cm^2	inch of water (68F)	394.4011
kilopascal	inch of water (68F)	4.0219
lbf / in^2	inch of water (68F)	27.7293
millibar	inch of water (68F)	0.40208
mm of Hg (0C)	inch of water (68F)	0.5363
pascal	inch of water (68F)	0.004022
torr (mm of Hg, 0C)	inch of water (68F)	0.5363

Temperature

From	To	Multiply By
Celsius	Fahrenheit	T(F) = T(C)x1.8 + 32
Kelvin	Fahrenheit	T(F) = (T(K)x1.8) - 459.67
Rankine	Fahrenheit	T(F) = T(R) - 459.67

Mass

From	To	Multiply By
gram	pounds	0.00220462
kilogram	pounds	2.20462
ounces	pounds	0.0625

Volume

From	To	Multiply By
cm^3	feet^3	3.53145E-05
Gallons	feet^3	0.13368
inches^3	feet^3	0.0005787
Liters	feet^3	0.0353145
m^3	feet^3	35.3147

Viscosity (Absolute)

From	To	Multiply By
poise	lbm / (ft.sec)	0.06719689
centipoise	lbm / (ft.sec)	0.000671969
lbf.sec / ft^2	lbm / (ft.sec)	32.17405
lbm / (in.sec)	lbm / (ft.sec)	12
Pascal.sec	lbm / (ft.sec)	6.719689E-07

Viscosity (Kinematic)

From	To	Multiply By
stokes	lbm / (ft.sec)	1.076391E-3[rho,i* (lbm / ft^3)]
centistokes	lbm / (ft.sec)	1.076391E-5[rho,i* (lbm / ft^3)]
ft^2 / sec	lbm / (ft.sec)	rho,i* (lbm / ft^3)

Flow, Actual Volume

From	To	Multiply By
ft^3 / min	lbm / sec	[rho,i* (lbm / ft^3)] / 60
ft^3 / hour	lbm / sec	[rho,i* (lbm / ft^3)] / 3600
cm^3 / min	lbm / sec	3.53145E-5[rho,i* (lbm / ft^3)] / 60
liters / min	lbm / sec	3.53145E-2[rho,i* (lbm / ft^3)] / 60
gallons / min	lbm / sec	0.13368[rho,i* (lbm / ft^3)] / 60

Flow, Standard Volume

From	To	Multiply By
ft^3 / min	lbm / sec	[rho,s** (lbm / ft^3)] / 60
ft^3 / hour	lbm / sec	[rho,s** (lbm / ft^3)] / 3600
cm^3 / min	lbm / sec	3.53145E-5[rho,s** (lbm / ft^3)] / 60
liters / min	lbm / sec	3.53145E-2[rho,s** (lbm / ft^3)] / 60

* rho,i = density at meter inlet conditions (P1, T1)
**rho,s = density at standard conditions (Pstd, Tstd)

Corrosion Control - Galvanic Table

Galvanic corrosion is an electrochemical action of two dissimilar metals in the presence of an electrolyte (moisture) and an electron conductive path. It occurs when dissimilar metals are in contact. A low energy electric current flows from the Cathode to the Anode causing corrosion to the Anode.

It is recognizable by the presence of a buildup of corrosion at the joint between the dissimilar metals. For example, when steel alloys (mild or plated) are in contact with stainless steel, galvanic corrosion can occur and accelerate the corrosion of the steel.

Galvanic Series

A "galvanic series" applies to a particular electrolyte solution. For each specific solution which is expected to be encountered for actual use, a different order or series will ensue.

Galvanic series relationships are useful as a guide for selecting metals to be joined, will help the selection of metals having minimal tendency to interact galvanically, or will indicate the need or degree of protection to be applied to lessen the expected potential interactions.

Generally, the closer one metal is to another in the series, the more compatible they will be, i.e., the galvanic effects will be minimal. Conversely, the farther one metal is from another, the greater the corrosion will be.

Precautions for Joining Dissimilar Metals

When it becomes necessary that metals widely separated in the galvanic series must be assembled, the following precautions should be considered to minimize galvanic corrosion.

1. Sacrificial - by applying to the cathodic member a sacrificial coating having a potential similar to or near that of the anodic member. If you are designing for a sacrificial element, the sacrificial element should be on the anodic side and smaller. This is not recommended under any circumstances for pressure-bearing components like fittings.

2. Sealing - by sealing to insure that faying surfaces are water-tight and will not come into contact with the electrolyte (sea water).

3. Resistance - by painting or coating all surfaces to increase the resistance of the electrical circuit. When considering this approach with fittings, be aware of differing hardness properties of metals and the increased likelihood of galling dissimilar metals with installation torque. Also consider the friction caused during installation and the tendency to remove protective coatings from less noble materials.

Note: many materials classified as non-metallic will initiate corrosion of metals to which they are joined, e.g., cellulosic reinforced plastics, carbon or metal loaded resin materials, asbestos-cement composites.

GALVANIC TABLE FOR SEA WATER
Nobe (Least Active or Cathodic)
Platinum
Gold
Graphite
Hastelloy C
Titanium
Carpenter 20 (passivated)
T316 Stainless Steel (passivated)
T304 Stainless Steel (passivated)
17-4PH Stainless Stele (passivated)
Monel 400
Silver
Inconel 600
G-Bronze
70-30 Copper-Nickel
80-20 Copper-Nickel
90-10 Copper-Nickel
Silicon Bronze
Aluminum bronze
Admiralty brass
Yellow brass
Nickel
Naval brass
Manganese bronze
Nickel (plated)
Tin
Lead
Copper
Cast iron
Mild steel
Aluminum 2024
Cadmium
Alclad
Aluminum 6053
Galvanized steel
Zinc
Magnesium alloys
Magnesium
Anodic (most active)

Source: MIL-STD-889.

Design metal couples so that the area of the cathode is smaller (appreciably) than the area of the anodic metal. For example, stainless steel fittings installed in a large aluminum manifold block will corrode more slowly than the reverse combination.

Interpose a compatible metallic gasket or washer between the dissimilar metals prior to fastening.

Plate the cathodic member with a metal compatible to the anode.

Apply corrosion-inhibiting pastes or compounds under heads of screws or bolts inserted into dissimilar metal surfaces whether or not the fasteners had been previously plated or otherwise treated. In some instances, it may be feasible to apply an organic coating to the faying surfaces prior to assembly.

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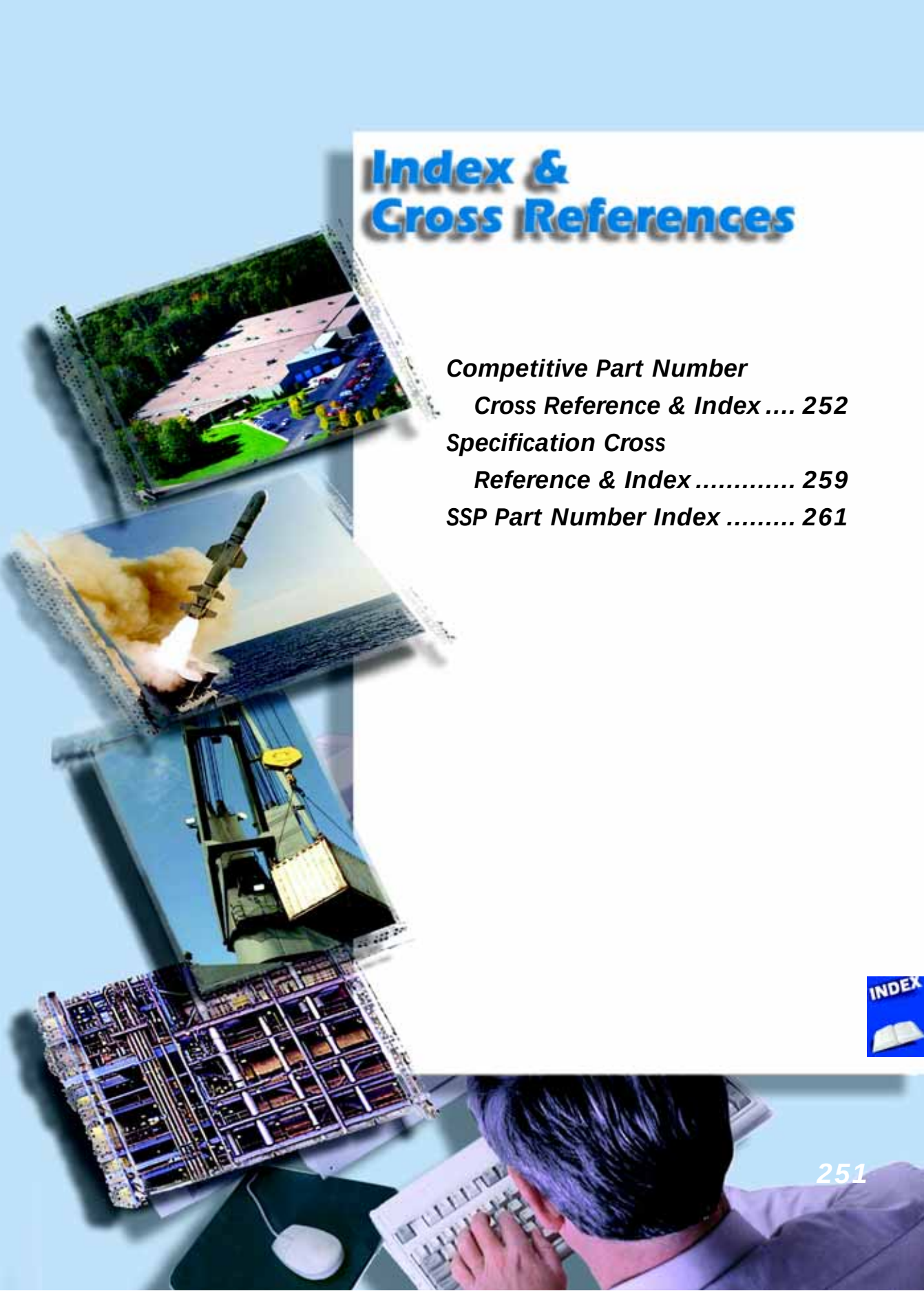

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5604-SS	Male Branch Tee	FFM	155
5605-SS	Female Tee	FFF	154
5652-SS	Female Cross	FFFF	156
6400-L-O	Long Straight Thread Connector	J-LGC	63
6400-O-SS	Straight Thread Connector	J-GC	62
6401-O-SS	Male Straight Thread x Male Pipe	GCM	149
6402-O-SS	Swivel Nut Straight Thread Connector	JS-GC	72
6404-SS	Female Straight Thread X Male Pipe	FPM	149
6405-SS	Male Straight Thread x Female Pipe	GCF	149
6408-SS	Straight Thread Plug	GP	157
6410-SS	Male Straight Thread x Female Straight Thread	GCFP	150
6500-SS	Swivel Nut Elbow (Tube X Nut)	J-SE	70
6501-SS	Swivel Nut Male Elbow	JS-ME	73
6502-SS	45° Swivel Nut Elbow	J-SE-45	70
6504-SS	Tube to Swivel	J-SC	70
6505-SS	Swivel Nut Male Connector	JS-C	71
6506-SS	Swivel Nut Female Connector	JS-FC	72
6600-SS	Swivel Nut Branch Tee	J-SBT	71
6602-SS	Swivel Nut Run Tee	J-SRT	71
6801-NOW-SS	Straight Thread Elbow	J-GE	64
6802-NOW-SS	45° Straight Thread Elbow	J-GE-45	65
6803-NOW-SS	Straight Thread Branch Tee	J-GBT	66
6804-NOW-SS	Straight Thread Run Tee	J-GRT	66
6805-NWO-SS	Female Pipe x Thread Elbow	GEF	154
6900-O-SS	Straight Thread Connector	PS-GC	159
6901-NWO-SS	Straight Thread Elbow	PS-GE	160
6902-NWO-SS	45° Straight Thread Elbow	PS-GE-45	160

Allan Aircraft

Competitor Part #	Description	SSP Part #	Page
AA60724	Straight Thread Elbow	J-GE	64
AA60725	45° Straight Thread Elbow	J-GE-45	65
AA67000	Union	JU	56
AA67001	Large Hex Union	JLHU	58
AA67003	Union Elbow	J-E	59
AA67004	Union Tee	J-T	61
AA67005	Union Cross	J-X	61
AA67007	Male Elbow	J-ME	53
AA67008	Long Male Elbow	J-LME	54
AA67010	45° Male Elbow	J-ME-45	54
AA67011	Male Run Tee	J-TMT	55
AA67012	Male Branch Tee	J-TTM	56
AA67013	Female Connector	J-FC	67
AA67014	Female Elbow	J-FE	68
AA67015	Female Run Tee	J-TFT	69
AA67016	Female Branch Tee	J-TTF	69
AA67017	Bulkhead Union	J-BU	57

Competitive Part Number Cross Reference & Index

Allan Aircraft

Competitor Part #	Description	SSP Part #	Page
AA67019	45° Bulkhead Union Elbow	J-BE-45	60
AA67020	Bulkhead Branch Tee	J-BBT	60
AA67021	Bulkhead Run Tee	J-BRT	60
AA67022	Straight Thread Connector	J-GC	62
AA67023	Long Straight Thread Connector	J-LGC	63
AA67026	Straight Thread Run Tee	J-GRT	66
AA67027	Straight Thread Branch Tee	J-GBT	66
AA67028	Swivel Nut Elbow (tube x nut)	J-SE	70
AA67029	45° Swivel Nut Elbow	J-SE-45	70
AA67030	Swivel Nut Run Tee	J-SRT	71
AA67031	Swivel Nut Branch Tee	J-SBT	71
AA67032	Nut	J-N	77
AA67033	Sleeve	J-S	77
AA67034	Tube End Reducer	J-TER	78
AA67035	Plug	J-P	77
AA67036	Cap (2-piece)	AJ-Z-2	76
AA67038	Straight Thread Plug	GP	157
AA67039	Bulkhead Female Connector	J-BFC	67
AA67051	Bulkhead Locknut	BN	79
AA67051	Bulkhead Locknut	BN	107
AA6706	Male Connector	J-C	51
KC108	Straight Thread Elbow	GJ-GE	82
KC110	Straight Thread Run Tee	GJ-GRT	82
KC112	Straight Thread Connector	GJ-GC	81
KC116	Male Connector	GJ-C	80
KC118	Elbow	GJ-E	81
KC121	Male Run Tee	GJ-TMT	80
KC123	Tee	GJ-T	81
KC126	Union	GJ-U	81
KC130	Plug	GJ-P	82
KC131	Swivel Nut Elbow	GJ-SE	82

CPV Manufacturing

Competitor Part #	Description	SSP Part #	Page
57	Reducing Insert	Q507R	48
100	Tube to Pipe Socket Coupling	Q1007	49
48R	Tube Socket Tail Piece	Q408R	40
48T	Tube Socket Threaded Piece	Q408T	45
50N	Union Nut	Q500N	49
51R	Pipe Socket Weld Tail Piece	Q501R	41
51T	Pipe Socket Weld Threaded Piece	Q501T	45
52R	Braze Groove Tail Piece	Q502R	44
52T	Braze Groove Threaded Piece	Q502T	48
53R	Female Pipe Tail Piece	Q503R	42
53T	Female Pipe Threaded Piece	Q503T	46
54R	Male Pipe Tail Piece	Q504R	42
54T	Male Pipe Threaded Piece	Q504T	46
59R	Male Straight Thread Tail Piece	Q509R	43
59T	Male Straight Thread Threaded Piece	Q509T	47
62R	Male Pipe Weld Tail Piece	Q602R	43
62T	Male Pipe Weld Threaded Piece	Q602T	47
63R	Male Standpipe Tail Piece	Q603R	44

CPV Manufacturing

Competitor Part #	Description	SSP Part #	Page
63T	Male Standpipe Threaded Piece	Q603T	48
64R	Female Straight Thread Tail Piece	Q604R	43
64T	Female Straight Thread Threaded Piece	Q604T	47
H804R	Blank Tail Piece	P-BS	38
H804T	Blank Body	P-BB	38
H805	Straight Thread Plug	GP	157
H809	Cross	P-X	33
H810	Tee	P-T	33
H811	Male Pipe Branch Tee	P-TTM	32
H812	Male Pipe Run Tee	P-TMT	31
H813	Female Pipe Branch Tee	P-TTF	36
H814	Female Pipe Run Tee	P-TFT	36
H815	Male Straight Thread Branch Tee	P-GBT	35
H816	Male Straight Thread Run Tee	P-GRT	35
H819	Cross	SWX	163
H820	Elbow	P-E	33
H821	Male Pipe Elbow	P-ME	31
H822	Female Pipe Elbow	P-FE	36
H823	Straight Thread Elbow	P-GE	34
H830	Tee	SWT	163
H840	Elbow	SWE	162
H847	Union	SWU	162
H849	Union	P-U	32
H849R	Tail Piece Sleeve	P-S	37
H850N	Nut	P-N	38
H853	Female Pipe Connector	P-FC	35
H854T	Male Pipe Connector	P-C	31
H859	Straight Thread Male Connector	P-GC	34
H863R	Male Tube Tail Piece	P-MS	39
H864	Straight Thread Female Connector	P-FGC	34
H865	Male Adapter	SWA	166
H866	Reducing Insert	SWI	162
H890	Bulkhead Union	P-BU	32

Eaton

Competitor Part #	Description	SSP Part #	Page
1290	Nut	J-N	77
2021	Male Connector	J-C	51
2022	Female Connector	J-FC	67
2024	Male Elbow	J-ME	53
2027	Union	JU	56
2039	Union Elbow	J-E	59
2066	Union Tee	J-T	61
259-1290	Nut	J-N	77
259-2020	Union Cross	J-X	61
259-2021	Male Connector	J-C	51
259-2022	Female Connector	J-FC	67
259-2023	45° Male Elbow	J-ME-45	54
259-2024	Male Elbow	J-ME	53
259-202411	Long Male Elbow	J-LME	54
259-2025	Female Elbow	J-FE	68
259-2027	Union	JU	56
259-2027	Reducing Union	J-U	57

Competitive Part Number Cross Reference & Index

Eaton

Competitor Part #	Description	SSP Part #	Page
259-202702	Straight Thread Connector	J-GC	62
259-202712	Large Hex Union	JLHU	58
259-202712	Large Hex Reducing Union	J-LHU	58
259-2028	Male Run Tee	J-TMT	55
259-2029	Female Run Tee	J-TFT	69
259-2030	Male Branch Tee	J-TTM	56
259-203002	Bulkhead Branch Tee	J-BBTX	
259-203003	Straight Thread Branch Tee	J-GBT	66
259-203005	Straight Thread Run Tee	J-GRT	66
259-2031	Female Branch Tee	J-TTF	69
259-203101	Swivel Nut Branch Tee	J-SBT	71
259-203102	Swivel Nut Run Tee	J-SRT	71
259-2039	Union Elbow	J-E	59
259-2061	45° Straight Thread Elbow	J-GE-45	65
259-2062	Straight Thread Elbow	J-GE	64
259-2066	Union Tee	J-T	61
259-2070	45° Swivel Nut Elbow	J-SE-45	70
259-2071	Swivel Nut Elbow	J-SE	70
259-210292	Cap (2-piece)	AJ-Z-2	76
259-900599	Plug	J-P	77
259-900605	Sleeve	J-S	70
7027	Tube End Reducer	AM-TER	107
7141	Cap	AM-Z-2	106
7217	Male Connector	AM-C	83
7267	Female Connector	AM-FC	99
7317	Union	AMU	89
7318	Large Hex Union	AMLHU	91
7327	Straight Thread Connector	AM-GC	96
7337	Bulkhead Union	AM-BU	90
7337	Bulkhead Union	AM-E	92
7367	45° Male Elbow	AM-ME-45	87
7417	Male Elbow	AM-ME	85
7467	Female Elbow	AM-FE	100
7518	Swivel Nut Elbow	AM-SE	102
7527	Straight Thread Elbow	AM-GE	97
7617	Male Branch Tee	AM-TTM	89
7667	Female Branch Tee	AM-TTF	102
7717	Tee	AM-T	94
7718	Swivel Nut Run Tee	AM-SRT	103
7719	Swivel Nut Branch Tee	AM-SBT	104
7727	Straight Thread Branch Tee	AM-GBT	99
7728	Straight Thread Run Tee	AM-GRT	98
7767	Male Run Tee	AM-TMT	88
7817	Female Run Tee	AM-TFT	101
7967	Cross	AM-X	94
900599	Plug	J-P	77
900605	Sleeve	J-S	70

Parker Hannifin

Competitor Part #	Description	SSP Part #	Page
10143	SAE 100R1/100R2 AT Female 37 Swivel Connector	HLFJ	119
10643	SAE 100R1/100R2 AT Male Pipe Connector	HLMC	119
20190	SAE 100R14 (Teflon) X Male Pipe	AH90020	129
20620	SAE 100R5 Female 37° Swivel Connector	AH20050	127
20690	SAE 100R14 (Teflon) X 37° Female Swivel	AH90050	130
0107-SS	Male Connector	PS-C	158
0207-SS	Female Connector	PS-FC	158
20120-C	SAE 100R5 Male Connector	AH20020	124
20130-C	SAE 100R2 AT Male Pipe Connector	AH30020	124
20142-C	SAE 100R1 AT Male Connector	AH40220	124
20630-C	SAE 100R2 AT Female 37° Swivel Connector	AH30050	126
20634-C	SAE 100R9 Type AT Female 37° Swivel Connector	AH30450	127
20642-C	SAE 100R1 AT Female 37° Swivel Connector	AH40250	125
2107-SS	Male Elbow	PS-ME	159
2207-SS	Female Elbow	PS-FE	159
23920-C	SAE 100R5 AT Female 37° Swivel Elbow	AH20051	129
23930-C	SAE 100R2 AT Female 37° Swivel Elbow	AH30051	128
23942-C	SAE 100R1 AT Female 37° Swivel Elbow	AH40251	128
30182-C	Push-on Male Connector	H80220	131
30682-C	Push-on Female 37° Swivel Connector	H80250	132
3107-SS	45° Male Elbow	PS-ME-45	160
33482-C	Push-on Male Standpipe	H80293	132
AEOG-SS	Female Pipe x Thread Elbow	GEF	154
AW-SS	Male Adapter	SWA	166
BL-SS	Tube Nut	S-N	27
BTX-SS	Nut	J-N	77
BU-SS	Nut	M-N	106
C5BU-SS	Straight Thread Elbow	AM-GE	97
C5OLO-SS	Straight Thread Elbow	S-GE	25
C5X-SS	Straight Thread Elbow	J-GE	64
C6BU-SS	Swivel Nut Elbow	AM-SE	102
C6LO-SS	Swivel Nut Elbow	S-SE	26
C6X-SS	Swivel Nut Elbow (tube x nut)	J-SE	70
CBU-SS	Male Elbow	AM-ME	85
CCBU-SS	Long Male Elbow	AM-LME	86
CCCBU-SS	Extra Long Male Elbow	AM-LLME	86
CCCTX-SS	Extra Long Male Elbow	J-LLME	55
CCTX-SS	Long Male Elbow	J-LME	54
CD-45-SS	45° Street Elbow	MF-45	153
CD-SS	Street Elbow	MF	153
CLO-SS	Male Elbow	S-ME	20
CR-SS	Male Elbow	MM	154
CTX-SS	Male Elbow	J-ME	53
CW-SS	Male Elbow	SWME	164
DBU-SS	Female Elbow	AM-FE	100
DD-45-SS	45° Female Elbow	FF-45	153
DD-SS	Female Elbow	FF	153
DTX-SS	Female Elbow	J-FE	68
DW-SS	Female Elbow	SWFE	164
EBU-SS	Elbow	AM-E	92
ELO-SS	Union Elbow	S-E	21
ETX-SS	Union Elbow	J-E	59
EW-SS	Elbow	SWE	162
F50F-SS	Male Straight Thread x Male Pipe	GCM	149

Competitive Part Number Cross Reference & Index

Parker Hannifin

Competitor Part #	Description	SSP Part #	Page
F50G5-SS	Male Straight Thread x Female Straight Thread	GCFP	150
F50G-SS	Male Straight Thread x Female Pipe	GCF	149
F50HA0-SS	Straight Thread Union	GCU	150
F5BU-SS	Straight Thread Connector	AM-GC	96
F50LO-SS	Straight Thread Connector	S-GC	24
F5X-SS	Straight Thread Connector	J-GC	62
F65X-SS	Swivel Nut Straight Thread Connector	JS-GC	72
F6X-SS	Swivel Nut Male Connector	J-SC	70
FBU-SS	Male Connector	AM-C	83
FF5BU-SS	Long Straight Thread Connector	AM-LGC	96
FF50LO-SS	Long Straight Thread Connector	S-LGC	24
FF5X-SS	Long Straight Thread Connector	J-LGC	63
FFF-SS	Hex Long Nipple	HNX	147
FF-SS	Hex Nipple	HN	147
FG-SS	Reducing Adapter	RA	148
FHG5-SS	Female Straight Thread x Male Pipe	FPM	149
FLO-SS	Male Pipe Connector	S-C	20
FNL	Cap	AS-Z-2	30
FNTX-SS	Cap (2-piece)	AJ-Z-2	76
FNU-SS	Cap	AM-Z-2	106
FTX-SS	Male Connector	J-C	51
FW-SS	Male Connector	SWC	163
G6X-SS	Swivel Nut Female Connector	JS-FC	72
GBU-SS	Female Connector	AM-FC	99
GG-SS	Hex Coupling	HC	152
GTX-SS	Female Connector	J-FC	67
GW-SS	Female Connector	SWFC	163
HBU-SS	Union	AMU	89
HC	Push-on Barbed Fitting Barb x Male Pipe	M2HC	133
HHP-SS	Hex Countersunk Plug	CP	156
HLO-SS	Union	S-U	21
HP50N-SS	Straight Thread Hex Countersunk Plug	CGP	157
HPC-SS	Pipe Cap	PC	157
HP-SS	Hex Head Plug	HP	156
HTX-SS	Union	JU	56
HW-SS	Union	SWU	162
HX6	Swivel Nut Union	JS-U	72
JBU-SS	Tee	AM-T	94
JLO-SS	Union Tee	S-T	22
JTX-SS	Union Tee	J-T	61
JW-SS	Tee	SWT	163
KBU-SS	Cross	AM-X	94
KLO-SS	Union Cross	S-X	23
KMM0O-SS	Female Cross	FFFF	156
KTX-SS	Union Cross	J-X	61
KW-SS	Cross	SWX	163
LHB30-SS	Braze Connector	S-FBZ	28
LHBU-SS	Reducing Large Hex Union	AM-LHU	91
LHTX-SS	Large Hex Union	JLHU	58
MBU-SS	Female Run Tee	AM-TFT	101
MM0-SS	Female Tee	FFF	154
MMS-SS	Male Branch Tee	FFM	155
MRO-SS	Male Run Tee	FMF	155
MTX-SS	Female Run Tee	J-TFT	69

Competitor Part #	Description	SSP Part #	Page
NW-SS	45° Elbow	SWE-45	162
OBU-SS	Female Branch Tee	AM-TTF	102
OTX-SS	Female Branch Tee	J-TTF	69
P50N	Straight Thread Plug	GP	157
PNLO-SS	Plug	S-P	30
PNTX-SS	Plug	J-P	77
PNU-SS	Plug	M-P	105
PTR-SS	Bushing	PTR	148
R5BU-SS	Straight Thread Run Tee	AM-GRT	98
R50LO-SS	Straight Thread Run Tee	S-GRT	26
R5X-SS	Straight Thread Run Tee	J-GRT	66
R6BU-SS	Swivel Nut Run Tee	AM-SRT	103
R6LO-SS	Swivel Nut Run Tee	S-SRT	27
R6X-SS	Swivel Nut Run Tee	J-SRT	71
RBU-SS	Male Run Tee	AM-TMT	88
RRS-SS	Male Tee	MMM	156
RTX-SS	Male Run Tee	J-TMT	55
S5BU	Straight Thread Branch Tee	AM-GBT	99
S50LO-SS	Straight Thread Branch Tee	S-GBT	26
S5X-SS	Straight Thread Branch Tee	J-GBT	66
S6BU	Swivel Nut Branch Tee	AM-SBT	104
S6LO-SS	Swivel Nut Branch Tee	S-SBT	27
S6X-SS	Swivel Nut Branch Tee	J-SBT	71
SBR-SS	Braze Ring	BR	29
SBR-SS	Braze Ring	BR	40
SBR-SS	Braze Ring	BR	50
SBU-SS	Male Branch Tee	AM-TTM	89
STX-SS	Male Branch Tee	J-TTM	56
TL-SS	Braze Sleeve	S-S	28
TPL-SS	Flanged Sleeve	S-SM	28
TRBU-SS	Tube End Reducer	AM-TER	107
TRTX-SS	Tube End Reducer (one piece)	J-TER1	79
TRW-SS	Reducing Insert	SWI	162
TU-SS	Inch Sleeve	M-S	106
TX-SS	Sleeve	J-S	77
V5BU-SS	45° Straight Thread Elbow	AM-GE-45	98
V50LO-SS	45° Straight Thread Elbow	S-GE-45	25
V5X-SS	45° Straight Thread Elbow	J-GE-45	65
V6BU-SS	45° Swivel Nut Elbow	AM-SE-45	103
V6X-SS	45° Swivel Nut Elbow	J-SE-45	70
VBU-SS	45° Male Elbow	AM-ME-45	87
VTX-SS	45° Male Elbow	J-ME-45	54
WBU-SS	Bulkhead Union	AM-BU	90
WEBU-SS	Bulkhead Union Elbow	AM-BE	92
WELO-SS	Bulkhead Elbow	S-BEX	22
WETX-SS	Bulkhead Union Elbow	J-BE	59
WFTX-SS	Male Bulkhead Connector	J-BC	52
WGTX-SS	Bulkhead Female Connector	J-BFC	67
WJBU-SS	Bulkhead Branch Tee	AM-BBT	95
WJJBU-SS	Bulkhead Run Tee	AM-BRT	95
WJJLO-SS	Bulkhead Run Tee	S-BRTX	23
WJJTX-SS	Bulkhead Run Tee	J-BRT	60
WJTX-SS	Bulkhead Branch Tee	J-BBT	60
WLNL-SS	Bulkhead Locknut	S-BN	29
WLN-SS	Bulkhead Locknut	BN	107

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Parker Hannifin

Competitor Part #	Description	SSP Part #	Page
WLN-SS	Bulkhead Locknut	BN	79
WLO-SS	Bulkhead Union	S-BUX	21
WNBU-SS	45° Bulkhead Union Elbow	AM-BE-45	93
WNLO-SS	45° Bulkhead Elbow	S-BEX-45	22
WNTX-SS	45° Bulkhead Union Elbow	J-BE-45	60
WTX-SS	Bulkhead Union	J-BU	57
X6EF-SS	Swivel Nut Male Elbow	JS-ME	73
XH2BU-SS	Bulkhead Union	AMJ-BU	105
XHBU-SS	Union	AMJ-U	104
XHL6-SS	Tube to Swivel	J-SC	70

Tech Products

Competitor Part #	Description	SSP Part #	Page
8300	Union	P-U	32
8301	Male Pipe Connector	P-C	31
8303	Straight Thread Male Connector	P-GC	34
8304	Straight Thread Female Connector	P-FGC	34
8305	Bulkhead Union	P-BU	32
8307	Nut	P-N	38
8309	Cross	P-X	33
8310	Tee	P-T	33
8311	Male Pipe Branch Tee	P-TTM	32
8312	Male Pipe Run Tee	P-TMT	31
8313	Female Pipe Branch Tee	P-TTF	36
8314	Female Pipe Run Tee	P-TFT	36
8315	Male Straight Thread Branch Tee	P-GBT	35
8316	Male Straight Thread Run Tee	P-GRT	35
8317	Blank Tail Piece	P-BS	38
8318	Blank Body	P-BB	38
8319	Straight Thread Plug	GP	157
8320	Elbow	P-E	33
8320	Female Pipe Connector	P-FC	35
8321	Male Pipe Elbow	P-ME	31
8322	Female Pipe Elbow	P-FE	36
8323	Straight Thread Elbow	P-GE	34
8327	Male Tube Tail Piece	P-MS	39

Swagelok

Competitor Part #	Description	SSP Part #	Page
AN	Male Connector	J-C	51
AN-7	Female Connector	J-FC	67
A-RS	BSP Straight Thread x Female Pipe Adapter	GCF-BSPP	151
BT	Male Branch Tee	FFM	155
CP	Pipe Cap	PC	156
CS	Female Cross	FFFF	156
E	Female Elbow	FF	153
HC-1	Push-on Barb Male Pipe Connector	M2HC	133
HCG	Hex Coupling	HC	152
HN	Hex Nipple	HN	147
HP	Hex Countersunk Plug	CP	156
HPST	Straight Thread Hex Countersunk Plug	CGP	157
HRCG	Hex Coupling	HC	152
HRN	Hex Nipple	HN	147
ME	Male Elbow	MM	154
MPW-A	Socket Weld Male Adapter	SWA	166
MT	Male Tee	MMM	156
MTW-A	Socket Weld Reducing Insert	SWI	70
P	Hex Head Plug	HP	156
PB-PM	Push-on Male Pipe Connector	H80220	131
PB-TA	Push-on Male Standpipe	H80293	132
PST	Straight Thread Plug	GP	157
RA	Reducing Adapter	RA	148
RB	Bushing	PTR	148
SAE-1	Male Straight Thread x Male Pipe	GCM	149
SE	Street Elbow	MF	153
ST	Male Run Tee	FMF	155
T	Female Tee	FFF	154
TSW-1	Socket Weld Male Connector	SWC	163
TSW-2	Socket Weld Male Elbow	SWME	164
TSW-3	Socket Weld Tee	SWT	163
TSW-4	Socket Weld Cross	SWX	163
TSW-6	Socket Weld Union	SWU	162
TSW-7	Socket Weld Female Connector	SWFC	163
TSW-8	Socket Weld Female Elbow	SWFE	164
TSW-9	Socket Weld Elbow	SWE	162
UBJ	Female Pipe Union	KUT	166
VCO	Cap	AS-Z-2	30
VCO-1	Male Pipe Connector	S-C	20
VCO-1-BL	Plug	S-P	30
VCO-1-ST	Straight Thread Connector	S-GC	24
VCO-2	Male Elbow	S-ME	20
VCO-4	Tube Nut	S-N	27
VCO-6	Union	S-U	21
VCO-9	Union Elbow	S-E	21
VCO-9P	Straight Thread Elbow	S-GE	25
VCO-T	Union Tee	S-T	22

Competitive Part Number Cross Reference & Index

Weatherhead

Competitor Part #	Description	SSP Part #	Page
3081	Hex Nipple	HN	147
3121	Bushing	PTR	148
3171	Hex Head Plug	HP	156
3221	Reducing Adapter	RA	148
3321	Hex Coupling	HC	152
3371	45° Street Elbow	MF-45	153
3421	Street Elbow	MF	153
3521	Female Elbow	FF	153
3541	Male Elbow	MM	154
3621	Male Branch Tee	FFM	155
3721	Female Tee	FFF	154
3771	Male Run Tee	FMF	155
3971	Female Cross	FFFF	156
5027	Tube End Reducer	J-TER	78
5117	Nut	J-N	77
5141	Cap (2-piece)	AJ-Z-2	76
5177	Sleeve	J-S	77
5217	Male Connector	J-C	51
5241	Plug	J-P	77
5267	Female Connector	J-FC	67
5313	Reducing Union	J-U	57
5318	Large Hex Union	JLHU	58
5327	Straight Thread Connector	J-GC	62
5328	Long Straight Thread Connector	J-LGC	63
5337	Bulkhead Union	J-BU	57
5367	45° Male Elbow	J-ME-45	54
5368	45° Swivel Nut Elbow	J-SE-45	70
5377	45° Straight Thread Elbow	J-GE-45	65
5387	45° Bulkhead Union Elbow	J-BE-45	60
5417	Male Elbow	J-ME	53
5437	Long Male Elbow	J-LME	54
5447	Extra Long Male Elbow	J-LLME	55
5467	Female Elbow	J-FE	68
5516	Swivel Nut Elbow (tube x nut)	J-SE	70
5517	Union Elbow	J-E	59
5527	Straight Thread Elbow	J-GE	64
5617	Male Branch Tee	J-TTM	56
5667	Female Branch Tee	J-TTF	69
5717	Union Tee	J-T	61
5718	Swivel Nut Run Tee	J-SRT	71
5719	Swivel Nut Branch Tee	J-SBT	71
5727	Straight Thread Branch Tee	J-GBT	66
5728	Straight Thread Run Tee	J-GRT	66
5737	Bulkhead Branch Tee	J-BBT	60
5738	Bulkhead Run Tee	J-BRT	60
5767	Male Run Tee	J-TMT	55
5813	Female Run Tee	J-TFT	69
5936	Bulkhead Locknut	BN	79
5967	Union Cross	J-X	61
7027	Tube End Reducer	AM-TER	107
7117	Nut	M-N	106
7141	Cap	AM-Z-2	106
7176	Inch Sleeve	M-S	106
7217	Male Connector	AM-C	83
7242	Straight Thread Plug	GP	157

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7267	Female Connector	AM-FC	99
7317	Union	AMU	89
7318	Large Hex Union	AMLHU	91
7327	Straight Thread Connector	AM-GC	96
7328	Long Straight Thread Connector	AM-LGC	96
7337	Bulkhead Union	AM-BU	90
7367	45° Male Elbow	AM-ME-45	87
7368	45° Swivel Nut Elbow	AM-SE-45	103
7377	45° Straight Thread Elbow	AM-GE-45	98
7417	Male Elbow	AM-ME	85
7467	Female Elbow	AM-FE	100
7517	Elbow	AM-E	92
7518	Swivel Nut Elbow	AM-SE	102
7527	Straight Thread Elbow	AM-GE	97
7617	Male Branch Tee	AM-TTM	89
7667	Female Branch Tee	AM-TTF	102
7717	Tee	AM-T	94
7718	Swivel Nut Run Tee	AM-SRT	103
7719	Swivel Nut Branch Tee	AM-SBT	104
7727	Straight Thread Branch Tee	AM-GBT	99
7728	Straight Thread Run Tee	AM-GRT	98
7767	Male Run Tee	AM-TMT	88
7817	Female Run Tee	AM-TFT	101
7936	Bulkhead Locknut	BN	107
7967	Cross	AM-X	94

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070101	Reducing Union	J-U	57
070102	Male Connector	J-C	51
070103	Female Connector	J-FC	67
070109	Plug	J-P	77
070110	Nut	J-N	77
070112	Cap (2-piece)	AJ-Z-2	76
070115	Sleeve	J-S	77
070118	Bulkhead Locknut	BN	107
070119	Large Hex Union	JLHU	58
070119	Large Hex Reducing Union	J-LHU	58
070120	Straight Thread Connector	J-GC	62
070122	Long Straight Thread Connector	J-LGC	63
070123	Tube End Reducer	J-TER	78
070201	Union Elbow	J-E	59
070202	Male Elbow	J-ME	53
070203	Female Elbow	J-FE	68
070220	Straight Thread Elbow	J-GE	64
070221	Swivel Nut Elbow (tube x nut)	J-SE	70
070302	45° Male Elbow	J-ME-45	54
070320	45° Straight Thread Elbow	J-GE-45	65
070321	45° Swivel Nut Elbow	J-SE-45	70
070401	Union Tee	J-T	61
070424	Male Run Tee	J-TMT	55
070425	Male Branch Tee	J-TTM	56
070426	Female Run Tee	J-TFT	69
070427	Female Branch Tee	J-TTF	69
070428	Straight Thread Run Tee	J-GRT	66
070429	Straight Thread Branch Tee	J-GBT	66
070432	Swivel Nut Run Tee	J-SRT	71
070433	Swivel Nut Branch Tee	J-SBT	71
070501	Union Cross	J-X	61
070601	Bulkhead Union	J-BU	57
070801	45° Bulkhead Union Elbow	J-BE-45	60
070958	Bulkhead Run Tee	J-BRT	60
070959	Bulkhead Branch Tee	J-BBT	60
071502	Long Male Elbow	J-LME	54
071602	Extra Long Male Elbow	J-LLME	55
080101	Reducing Union	AM-U	90
080102	Male Connector	AM-C	83
080103	Female Connector	AM-FC	99
080109	Plug	M-P	105
080110	Nut	M-N	106
080110	Blank Body	P-BB	38
080112	Cap	AM-Z-2	106
080115A	Inch Sleeve	M-S	106
080115A	Bulkhead Union	P-BUX	32
080119	Reducing Large Hex Union	AM-LHU	91
080120	Straight Thread Connector	AM-GC	96
080122	Long Straight Thread Connector	AM-LGC	96
080123	Tube End Reducer	AM-TER	107
080201	Elbow	AM-E	92
080202	Male Elbow	AM-ME	85
080203	Female Elbow	AM-FE	100
080220	Straight Thread Elbow	AM-GE	97

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080302	45° Male Elbow	AM-ME-45	87
080320	45° Straight Thread Elbow	AM-GE-45	98
080321	45° Swivel Nut Elbow	AM-SE-45	103
080401	Tee	AM-T	94
080424	Male Run Tee	AM-TMT	88
080425	Male Branch Tee	AM-TTM	89
080426	Female Run Tee	AM-TFT	101
080427	Female Branch Tee	AM-TTF	102
080428	Straight Thread Run Tee	AM-GRT	98
080429	Straight Thread Branch Tee	AM-GBT	99
080432	Swivel Nut Run Tee	AM-SRT	103
080433	Swivel Nut Branch Tee	AM-SBT	104
080501	Cross	AM-X	94
080601	Bulkhead Union	AM-BU	90
080701	Bulkhead Union Elbow	AM-BE	92
080801	45° Bulkhead Union Elbow	AM-BE-45	93
080958	Bulkhead Run Tee	AM-BRT	95
080959	Bulkhead Branch Tee	AM-BBT	95
081502	Long Male Elbow	AM-LME	86
081602	Extra Long Male Elbow	AM-LLME	86
090109A	Straight Thread Plug	GP	157
090109B	Straight Thread Hex Countersunk Plug	CGP	157
130109E	Hex Long Nipple	HP	156
130109N	Hex Countersunk Plug	CP	156
140130	Male Connector	PS-C	158
140131	Female Connector	PS-FC	158
140137	Hex Nipple	HN	147
140138	Hex Coupling	HC	152
140139	Reducing Adapter	RA	148
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140157	Straight Thread Connector	PS-GC	159
140230	Male Elbow	PS-ME	159
140237	Male Elbow	MM	154
140238	Female Elbow	FF	153
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140257	Straight Thread Elbow	PS-GE	160
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140339	45° Street Elbow	MF-45	153
140357	45° Straight Thread Elbow	PS-GE-45	160
140424	Male Run Tee	FMF	155
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140438	Female Tee	FFF	154
140538	Female Cross	FFFF	156
520101	Union	S-U	21
520104	Braze Connector	S-FBZ	28
520109	Plug	S-P	30
520110	Tube Nut	S-N	27
520115	Braze Sleeve	S-S	28
520118	Bulkhead Locknut	S-BN	29
520120	Straight Thread Connector	S-GC	24
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520220	Straight Thread Elbow	S-GE	25

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520320	45° Straight Thread Elbow	S-GE-45	25
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MS51501	Union	JU	56
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MS51503	Female Connector	J-FC	67
MS51504*	Male Elbow	J-ME	53
MS51505	Union Elbow	J-E	59
MS51506	Female Elbow	J-FE	68
MS51507*	Bulkhead Union Elbow	J-BE	59
MS51508*	45° Male Elbow	J-ME-45	54
MS51509*	45° Bulkhead Union Elbow	J-BE-45	60
MS51510	Union Tee	J-T	61
MS51511*	Male Run Tee	J-TMT	55
MS51512*	Male Branch Tee	J-TTM	56
MS51513	Female Branch Tee	J-TTF	69
MS51514	Female Run Tee	J-TFT	69
MS51515	Bulkhead Branch Tee	J-BBT	60
MS51516	Bulkhead Run Tee	J-BRT	60
MS51517	Union Cross	J-X	61
MS51518	Plug	J-P	77
MS51519	Large Hex Union	JLHU	58
MS51519	Large Hex Reducing Union	J-LHU	58
MS51520	Bulkhead Union	J-BU	57
MS51521*	Swivel Nut Elbow (tube x nut)	J-SE	70
MS51522	45° Swivel Nut Elbow	J-SE-45	70
MS51523*	Swivel Nut Run Tee	J-SRT	71
MS51524*	Swivel Nut Branch Tee	J-SBT	71
MS51525	Straight Thread Connector	J-GC	62
MS51526	Long Straight Thread Connector	J-LGC	63
MS51527*	Straight Thread Elbow	J-GE	64
MS51528	45° Straight Thread Elbow	J-GE-45	65
MS51529*	Straight Thread Branch Tee	J-GBT	66
MS51530*	Straight Thread Run Tee	J-GRT	66
MS51531	Nut	J-N	77
MS51532*	Cap (2-piece)	AJ-Z-2	76
MS51533	Sleeve	J-S	77
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MS51815*	Male Elbow	AM-ME	85
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MS51817	45° Male Elbow	AM-ME-45	87
MS51818*	Male Branch Tee	AM-TTM	89
MS51819	Male Connector	AM-C	83
MS51820*	Elbow	AM-E	92
MS51821	Female Branch Tee	AM-TTF	102
MS51822	Female Run Tee	AM-TFT	101
MS51823	Nut	M-N	106
MS51823	Blank Body	P-BB	38
MS51824*	Male Run Tee	AM-TMT	88
MS51825	Inch Sleeve	M-S	106
MS51825	Bulkhead Union	P-BUX	32
MS51839*	Straight Thread Elbow	AM-GE	97
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MS51843	Straight Thread Connector	AM-GC	96
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MS51853	Swivel Nut Branch Tee	AM-SBT	104
MS51854	Swivel Nut Run Tee	AM-SRT	103
MS51856	Reducing Large Hex Union	AM-LHU	91
MS51860	Bulkhead Locknut	BN	107
MS51860	Bulkhead Locknut	BN	79
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MS51891	Plug	M-P	105
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* Certain sizes of MS fittings may not meet MS specs. Please consult factory

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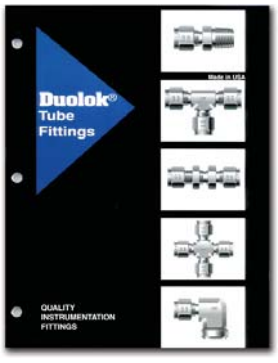
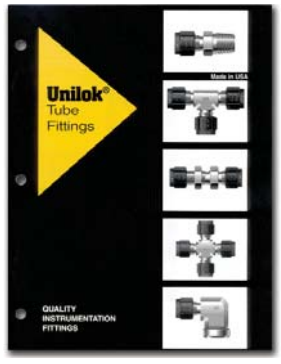
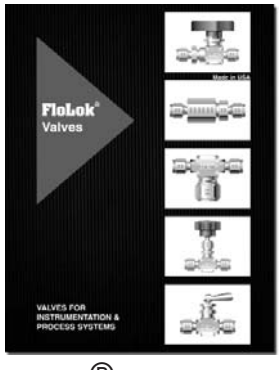
For more information on fittings for process and instrumentation systems manufactured by SSP, please request the catalogs pictured below.



Duolok® **Tube Fittings**

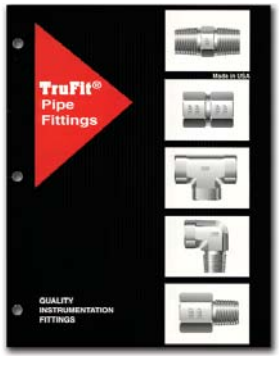


Unilok® **Tube Fittings**



FloLok® **Valves**

Griplok® **Tube Fittings**



TruFit® **Pipe Fittings**

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