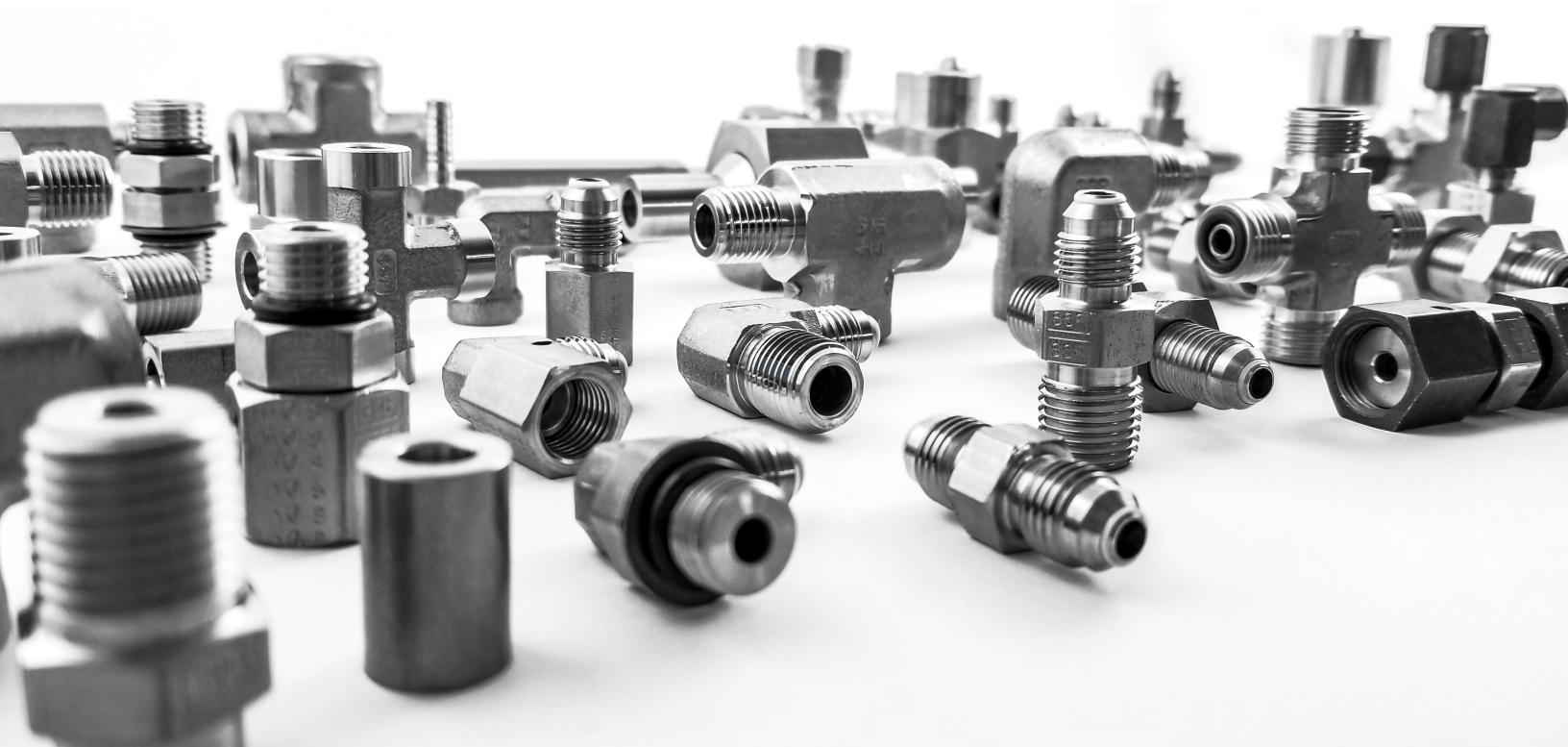




# Quick Reference Guide



## Industrial Fittings

- 37° Flared Fittings  
JIC and Ultraflare
- O-ring Face Seal Fittings  
SAE, NavSea and HP Series
- SAE Tube Fittings
- Threaded Pipe Fittings
- Weld and Braze
- Pipe Swivels
- Koncentric Fittings





At SSP, we are proud to be an American manufacturing success story.

**100% of our products are made in America.** All of our manufacturing is performed in our 165,000 sq. ft. facility located near Cleveland, Ohio.

Our facility is the largest vertically integrated, single-site operation in the industry. In addition to manufacturing and assembly, we have closed die forging, tool & die design, product engineering and testing operations under the same roof with customer service and management.

**Made in America is good business.** Not only do we make everything in America, we use American suppliers too. Buying American allows us to have better quality control and a more reliable supply chain. We can work more closely within our walls and with our suppliers to improve quality, reduce costs, and shorten lead times, which means faster service and better products for you.

**Support where it counts.** SSP products and services are supported by more than 4000 people and 350 distributor locations around the globe. For a distributor near you, contact SSP Customer Service or visit [www.mySSP.com/distributors](http://www.mySSP.com/distributors).

**SSP** Industry Standard Products.  
*Made Better.*



# Technical Information

TUBE FITTING Feature	Soft-Seal ORFS	SAE 37° Flared	UltraFlare™	SAE Flareless
Pressures	Very high	Medium to high	High	Medium
Temperatures	Nitrile/Buna: -30° to 250°F	Stainless: -425° to 1200°F	PTFE/Teflon®: -100° to 450°F	Stainless: -425° to 1200°F
	Viton®: -15° to 400°F	Brass: -40° to 400°F		Monel®: -65° to 800°F
		Monel®: -65° to 800°F		
Materials	T316/316L stainless steel	T316/316L stainless steel	T316/316L stainless steel	T316/316L stainless steel
		M405 Monel®		(17-4 ph stainless for ferrule)
		CA377/CA360/CA345 brass		M405 Monel
Size Available (Tubing OD)	NavSea: 1/8" - 2"	1/8" - 2"	1/4" - 1"	1/8" - 2"
	SAE: 1/4" - 1 1/2"	6mm - 38mm	6mm - 25mm	
Tube Compatibility	Welded or Seamless	Welded or Seamless	Welded or Seamless	Seamless only
	Inch or metric	Inch or metric	Inch or metric	Inch only
	All thickness	Thin to medium thickness	Thin to medium thickness	Medium to heavy thickness
Seal Reliability	Excellent	Good	Very good	Very good
	Elastomeric seal	Metal-to-metal seal	PTFE seal reinforces metal-to-metal seal	Metal to metal seal
	High tolerance to minor surface imperfections and damage	Low tolerance to minor surface imperfections and damage	Medium tolerance to surface imperfections	Sealing surfaces are less prone to damage
	High tolerance to assembly variation	Low tolerance to assembly variation	Medium tolerance to assembly variation like under-flaring or torquing	Low tolerance to assembly variation
Specification Conformance	SAE J1453: NavSea 710	SAE J514; MIL-F-18866	SAE J514 (partial)	SAE J514; MIL-F-18866
	ISO 8434-3	ISO 8434-2	NASA GP-425 (partial)	

HOSE FITTINGS	Hose / Tubing	Fitting System	Temperature	Working Pressure (per specification)
Hydraulic	SAE 100R1 AT/ DIN 20 022 type 1SN	AH402	-40 to 212°F	3000 psi
	SAE 100R2 AT/ DIN 20 022 type 2St	AH407	-40 to 212°F	5000 psi
	SAE 100R2 AT/ DIN 20 022 type 2SN	AH300	-40 to 212°F	5000 psi
	SAE 100R5, J1402	AH200 & 202	-40 to 212°F	3000 psi
	SAE 100R9 A	AH437	-40 to 212°F	4500 psi
	SAE100R12 A	AH477	-40 to 250°F	4000 psi
	MIL -H-24135/1	AH407	-40 to 212°F	5000 psi
Teflon	MIL -H-52471	AH477	-40 to 250°F	4000 psi
	SAE 100R14	AH900	-65 to 400° F	1500 psi
Push-On	MIL -H-27267	AH920	-65 to 400° F	1500 psi
	Push-Lok / Socketless Style	H802	-40 to 200°F	350 psi
	SAE 100R4	H808	-40 to 212°F	300 psi
	Gum Rubber	M2HC	-15 to 150°F	300 psi
	kynar	MHC	-40 to 260°F	100 psi
	Nylon Tubing	MHC	-40 to 200°F	100 psi
	Polyethylene	MHC	-100 to 175°F	100 psi
	PTFE	MHC	-100 to 450°F	100 psi
	Silicone	M2HC	-60 to 400°F	
	Tygon®	M2HC	-40 to 125°F	300 psi
Weld-On Flexible Metal	Vinyl	MHC	-40 to 180°F	
	Stainless Steel	BH		2700 psi

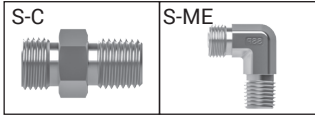
PIPE FITTING Feature	Threaded Tapered	Threaded Straight	Pipe Swivel	Weld & Braze	Koncentrik®
Pressures	Very high to 7,200 psi	High to 6,000 psi	High to 6,000 psi	Very high to 12,000 psi	Very high to 10,000psi
Temperatures	Stainless: -425° to 1200°F	Nitrile/Buna: -30° to 250°F	Stainless: -425° to 1200°F	Stainless: -425° to 1200°F	PTFE/Teflon®: -100° to 450°F
	Brass: -40° to 400°F	Viton®: -15° to 400°F		Monel®: -65° to 800°F	
	Monel®: -65° to 800°F				
Materials	316/316L stainless steel	316/316L stainless steel	316/316L stainless steel	316/316L stainless steel	316/316L stainless steel
	M405 Monel®			M405 Monel®	M405 Monel®
	CA377/CA360/CA345 brass				
Size Available (nominal)	1/8" - 2"	#4 - #32	#4 - #32	1/8" - 2"	1/8" - 2" & #4 - #32
Seal Reliability	Good in static systems	Excellent in static systems	Good in static & dynamic systems	Excellent	Very good
	Poor in dynamic systems	Very good in dynamic systems	Low tolerance to damage along sealing angles	Permanently brazed or welded joints are leak-free & high resistant to vibration	PTFE seal reinforced by metal-to-metal seal
	Medium tolerance to minor thread imperfections	Medium tolerance to thread & taper angle imperfections	Medium tolerance to thread imperfections	Sealing surfaces are less prone to damage	Medium tolerance to surface imperfections
	Medium tolerance to assembly variation			Low tolerance to assembly variation	Medium tolerance to assembly variation like under-torquing
Specification Conformance (design & thread)	J514, MIL-F-18866	SAE 1926, ISO 11926	SAE J514	ANSI B31.3	ANSI B31.1.0 Power Piping
	ANSI B1.20.1 JIS B0203	UN/UNF/UNEF; ANSI B1.1.ISO 263	ANSI B1.20.1		ANSI B16.11 Forged Steel Fittings Socket Welded & Threaded
	BS 21, ISO 7/1	BSPP ISO 228/1, BS 2779, DIN 259, JIS B0202			

# O-Ring Face Seal

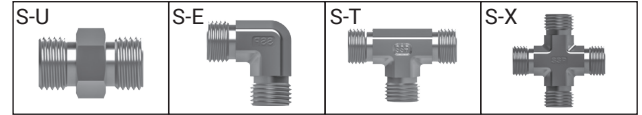
## Soft-Seal SAE SAE J1453



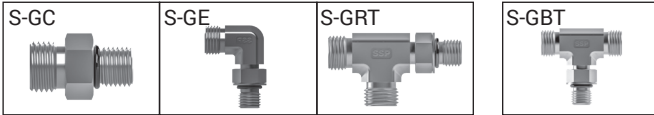
### Tube To Male Pipe



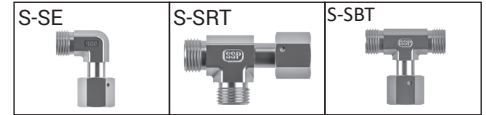
### Tube to Tube Union



### Tube to ORing Boss



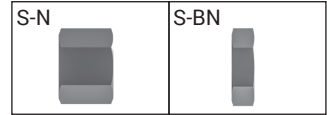
### Tube to Swivel



### Sleeves



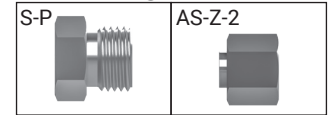
### Nuts



### Rings



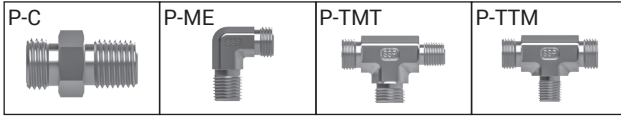
### Cap & Plug



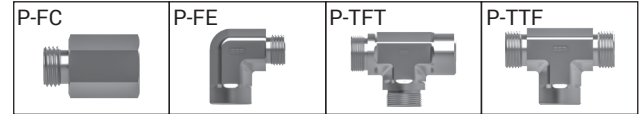
## Soft-Seal Nav-Sea NavSea 710



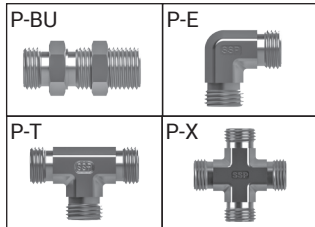
### Male Pipe



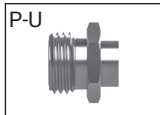
### Female Pipe



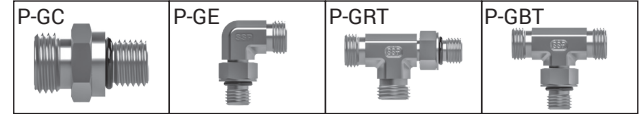
### Union



### Tube Socket



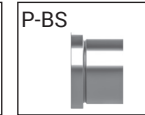
### O-Ring Boss



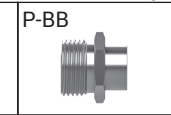
### Tail Sleeve



### Blank Tail



### Blank Body



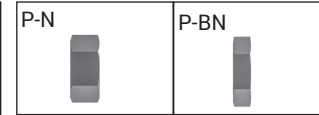
### Ring



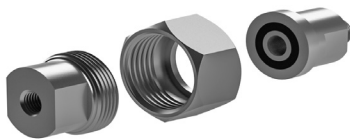
### R (O-RING)



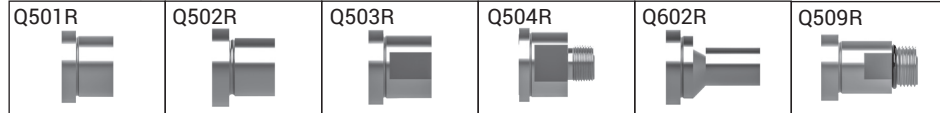
### Nuts



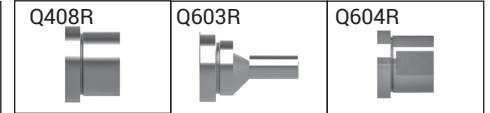
## Soft-Seal High Pressure Union



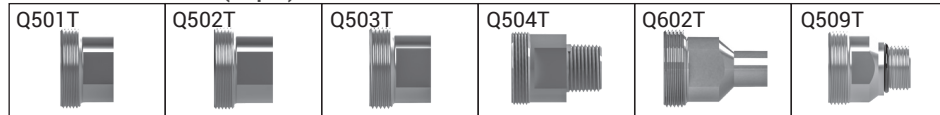
### Tailpiece (Pipe)



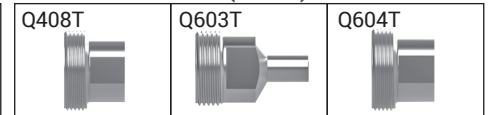
### Tailpiece (Tube)



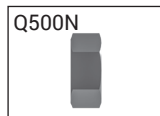
### Threaded Piece (Pipe)



### Threaded Piece (Tube)



### Nut



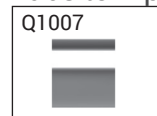
### Rings



### BR (Braze Ring)



### Tube to Pipe



# 37° Flared Fittings

## JIC 37° Flared

MS515 Series/SAE J514,  
MIL F-18866



### Male Pipe

J-C 	J-C-BSPT 	J-BC 	J-ME 
J-ME-45 	J-TMT 	J-TTM 	

### Tube Union

J-U 	J-BU 	J-E 	J-BRT 
J-E-45 	J-T 	J-X 	

### Swivel

J-SC 	J-SE 	J-SE-45 
J-SRT 	J-SBT 	

### Plug & Cap

J-P 	AJ-Z-2 	J-TER 
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### Reducer

### Female Pipe

J-FC 	J-FE 	J-FE-45 
J-TTF 	J-TFT 	

### O-Ring Boss

J-GC 	J-GC-BSPP 	J-GE 
J-GRT 	J-GBT 	

### Swivel Adapter

JS-C 	JS-ME 	JS-T 
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### Sleeve Nut

J-S 	J-N 	BN 
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## UltraFlare®

Partial NASA GP 425



### Male Pipe

GJ-C 	GJ-ME 	GJ-TMT 
----------	-----------	------------

### Union

GJ-U 	GJ-E 	GJ-T 
----------	----------	----------

### Sleeve

J-S 	J-N 	GT-TR 
---------	---------	-----------

### O-Ring Boss

GJ-GC 	GJ-GE 	GJ-GRT 
-----------	-----------	------------

### Female Pipe

GJ-FC 
-----------

### Swivel

GJ-SE 
-----------

### Plug

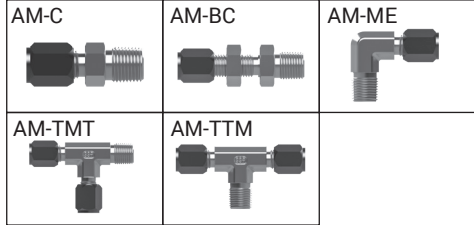
GJ-P 
----------

# Tube Fittings

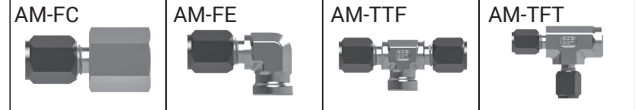
SAE FLARELESS  
MS518 Series/SAE J514,  
MIL F18866



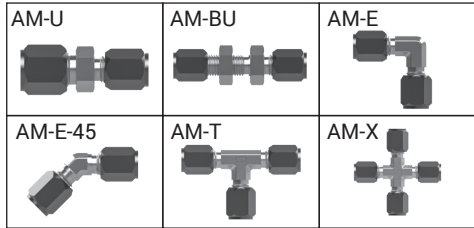
## Male Pipe



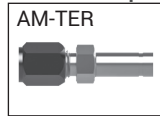
## Female Pipe



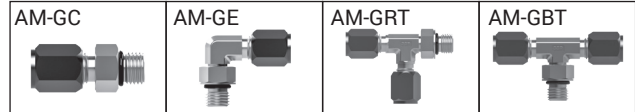
## Union



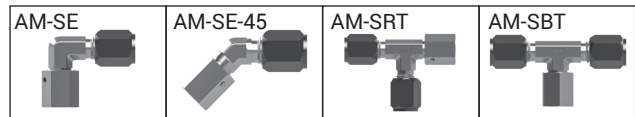
## Tube Adapter



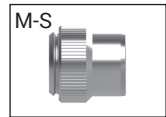
## O-Ring Boss



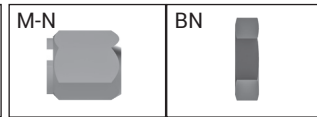
## Swivel



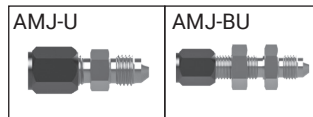
## Sleeve



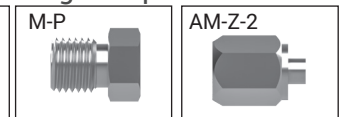
## Nut



## Flared



## Plug & Cap

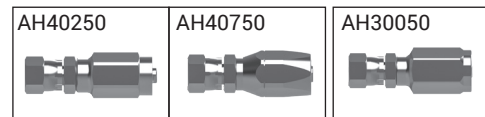


# Hose Fittings

## Hydraulic

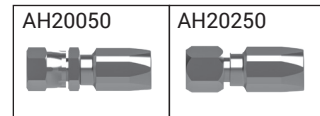
### Swivel

SAE 100R1



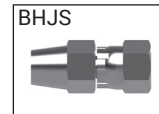
SAE 100R2

SAE 100R5

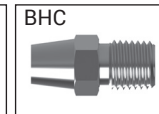


## Weld-On

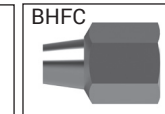
### Swivel



### Male Pipe



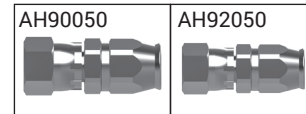
### Female Pipe



## Teflon®

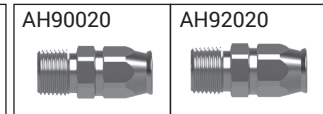
### Swivel

SAE 100R14



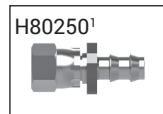
### Male Pipe

SAE 100R14

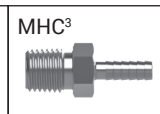
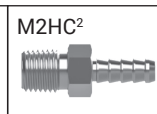
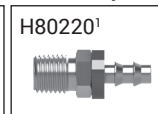


## Push-On

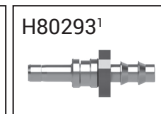
### Swivel



### Male Pipe



### Tube Stub



<sup>1</sup> For push lock style no clamp hoses

<sup>2</sup> For Soft plastic or rubber tubing

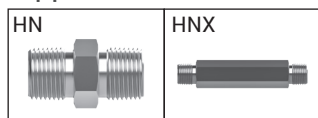
<sup>3</sup> For true ID plastic tubing and reinforced rubber hose

# Pipe Fittings and Adapters

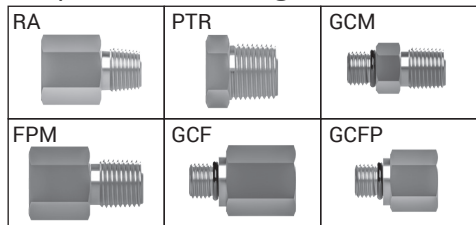
Standard & 10K Pipe Fittings  
ASME B31.3

Weld & Braze Adapters

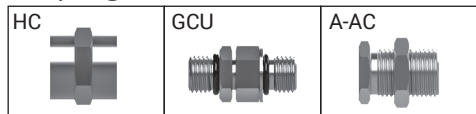
## Nipples



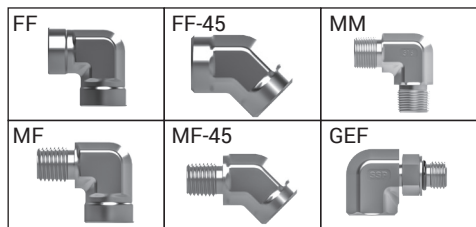
## Adapters and Bushings



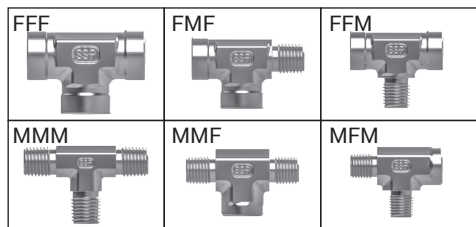
## Coupling



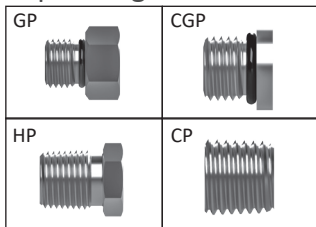
## Elbow



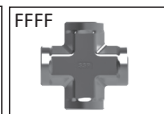
## Tee



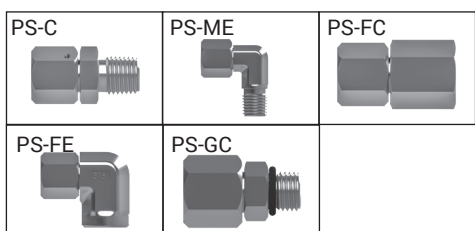
## Cap & Plug



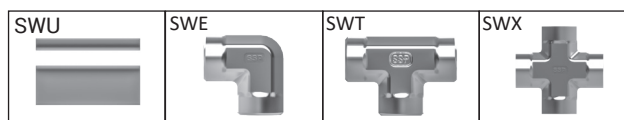
## Cross



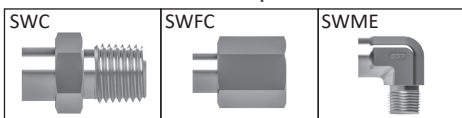
## Swivel Adapters, SAE J514



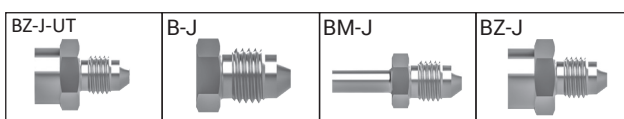
## Tube Socket Weld Union



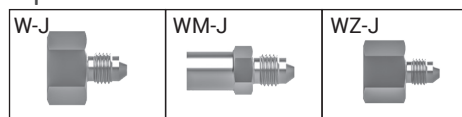
## Weld to Threaded Pipe



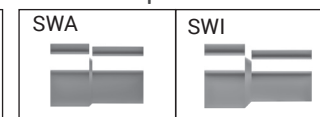
## Tube Socket Weld to Flare



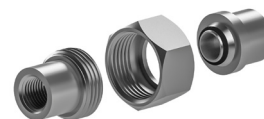
## Pipe Socket Weld to Flare



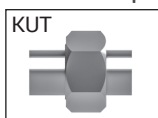
## Tube to Pipe



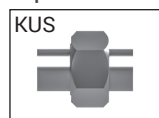
## Koncentrik® Unions ASME B31.1, B16.11



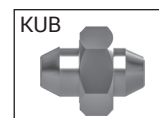
### Female Pipe



### Pipe Socket



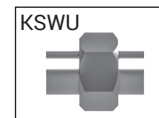
### Butt Weld



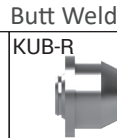
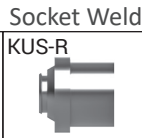
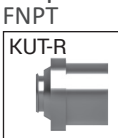
### O-Ring Boss



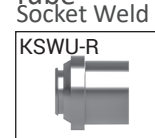
### Tube Socket



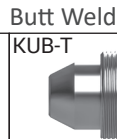
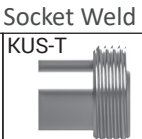
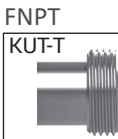
## Tailpiece



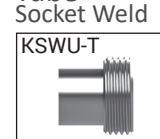
## Tube



## Threaded Piece



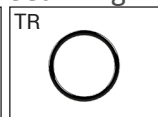
## Tube



## Nut



## Seal Ring



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