

# Pipe Fittings



- 1/16 to 1 in. sizes
- 316 stainless steel, brass, and carbon steel
- NPT, ISO/BSP, and SAE threads

## Contents

**Nipples** Page 169



**Adapters, Gaskets** Page 171



**Reducing Bushings, Reducers** Page 175



**Couplings** Page 176



**Elbows** Page 177



**Tees** Page 178



## Pipe Thread Sealants

Always use a pipe thread sealant when assembling tapered threads. SWAK™ anaerobic pipe thread sealant, PTFE-FREE pipe thread sealant, and Swagelok® PTFE Tape are available.

See the Swagelok *Leak Detectors, Lubricants, and Sealants* catalog (MS-01-91), page 105, for more information.

**Crosses** Page 179



**Union Ball Joints** Page 180



**Pipe Caps** Page 180



**Pipe Plugs** Page 180



**Hollow Hex Plugs** Page 180



**Hex Head Plugs** Page 181



## Ordering Information

Add a material designator to the basic ordering number.

Example: **SS-2-CN**

Material	Designator
316 stainless steel	SS
Brass	B
Carbon steel	S

- Heavy-wall fittings are available only in 316 stainless steel. The basic ordering numbers for these fittings include the material designator.
- SAE/MS fittings are not available in brass.
- Minimum order quantities may apply to certain materials and configurations.
- Contact your authorized Swagelok sales and service representative for information about additional sizes and special alloys.

## Materials

### Material Standards

Material	Bar Stock	Forgings
316 stainless steel	ASME SA479, ASTM A276	ASME SA182, ASTM A182
Brass	ASME B16, ASTM B453	ASTM B283
Carbon steel	ASTM A108	—

### Plating and Coating

To resist corrosion, all carbon steel fittings are treated with an electrodeposited zinc plating.

### Dimensions

- Dimensions are for reference only and are subject to change.
- E dimensions refer to the minimum opening.

### Cleaning

Components are cleaned to remove oil, grease, and loose particles. For more information, see Swagelok *Standard Cleaning and Packaging (SC-10)* (MS-06-62), page 1174.

### Pressure Ratings Basis

Ratings are based on ASME Code for Pressure Piping B31.3, Process Piping, at ambient temperature.

Material	Allowable Stress Value
316 stainless steel	20 000 psig (1378 bar)
Brass	10 000 psig (689 bar)
Carbon steel	20 000 psig (1378 bar)

- To determine pressure ratings in accordance with B31.1, Power Piping:
  - carbon steel material—multiply by 0.85.
 Stainless steel and brass material ratings remain the same.
- To determine MPa, multiply bar by 0.10.

### Temperature Ratings

System temperatures may be limited by the thread sealant or, when applicable, the gasket or O-ring material.

#### Fitting Materials

Material	Maximum Temperature °F (°C)
316 stainless steel	1000 (537)
Brass	400 (204)
Carbon steel	375 (190)

#### Gasket, O-Ring Materials

Component	Material	Maximum Temperature °F (°C)	Minimum Temperature °F (°C)
RS gaskets	Buna N	230 (110)	-13 (-25)
	Fluorocarbon FKM	400 (204)	5 (-15)
RG, RP gaskets	Copper	400 (204)	-325 (-198)
SAE O-rings	Fluorocarbon FKM	400 (204)	-20 (-28)

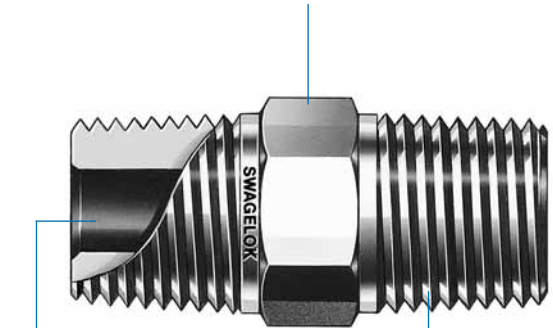
### Thread Specifications

Thread Type	Specification
NPT	ASME B1.20.1, SAE AS71051
ISO/BSP (parallel) (based on DIN 3852) (Swagelok RP and RS fittings)	ISO 228, JIS B0202
ISO/BSP (tapered) (based on DIN 3852) (Swagelok RT fittings)	ISO 7/1, BS EN 10226-1, JIS B0203
ISO/BSP (gauge) (based on EN 837-1 and 837-3) (Swagelok RG fittings)	ISO 228, JIS B0202
Unified (SAE) (Swagelok ST fittings)	ASME B1.1

### Features

- All fittings have a high-quality appearance.
- Every fitting is marked with manufacturer’s name for easy source tracing.
- Male threads are capped for protection.

Straight fittings are manufactured from quality bar stock for strength.

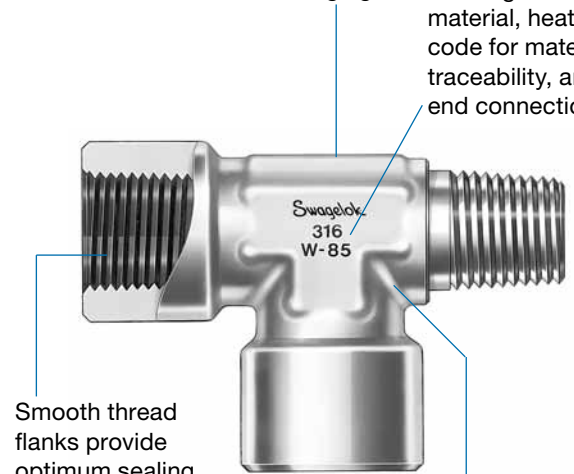


Burr-free internal surfaces.

NPT threads are based on requirements of ASME B1.20.1 and SAE AS71051.

Shaped fittings are manufactured from forgings.

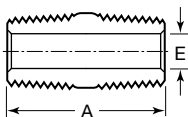
Marking identifies material, heat code for material traceability, and ISO end connection.



Smooth thread flanks provide optimum sealing and minimize galling.

Angles on elbows, tees, and crosses are rigidly controlled for accurate piping layout.

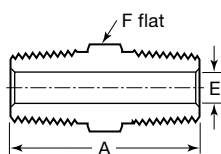
## Close Nipples



## Male NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)		Pressure Ratings, psig (bar)	
		A	E	316 SS, Steel	Brass
1/8	-2-CN	0.75 (19.1)	0.19 (4.8)	10 000 (689)	5000 (344)
1/4	-4-CN	1.12 (28.4)	0.28 (7.1)	8 000 (551)	4000 (275)
3/8	-6-CN	1.12 (28.4)	0.38 (9.6)	7 800 (537)	3900 (268)
1/2	-8-CN	1.50 (38.1)	0.47 (11.9)	7 700 (530)	3800 (261)
3/4	-12-CN	1.50 (38.1)	0.62 (15.7)	7 300 (502)	3600 (248)
1	-16-CN	1.88 (47.8)	0.88 (22.4)	5 300 (365)	2600 (179)

## Hex Nipples



## Male NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/16	-1-HN	1.01 (25.6)	0.12 (3.0)	5/16	11 000 (757)	5500 (378)
1/8	-2-HN	1.01 (25.6)	0.19 (4.8)	7/16	10 000 (689)	5000 (344)
1/4	-4-HN	1.40 (35.6)	0.28 (7.1)	9/16	8 000 (551)	4000 (275)
3/8	-6-HN	1.43 (36.3)	0.38 (9.6)	11/16	7 800 (537)	3900 (268)
1/2	-8-HN	1.84 (46.7)	0.47 (11.9)	7/8	7 700 (530)	3800 (261)
3/4	-12-HN	1.84 (46.7)	0.62 (15.7)	1 1/16	7 300 (502)	3600 (248)
1	-16-HN	2.32 (58.9)	0.88 (22.4)	1 3/8	5 300 (365)	2600 (179)
<b>Heavy-Wall Male NPT</b>						
1/4	SS-4-HN-10K	1.40 (35.6)	0.23 (5.8)	9/16	10 000 (689)	—
1/2	SS-8-HN-10K	1.84 (46.7)	0.39 (9.9)	7/8	10 000 (689)	—

## Male ISO Tapered Thread (RT)

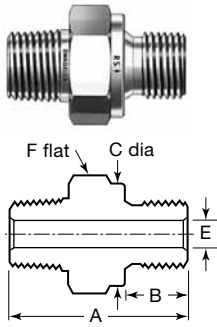
ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/8	-2-HN-RT	1.01 (25.6)	0.19 (4.8)	7/16	10 000 (689)	5000 (344)
1/4	-4-HN-RT	1.40 (35.6)	0.28 (7.1)	9/16	8 000 (551)	4000 (275)
3/8	-6-HN-RT	1.43 (36.3)	0.38 (9.6)	11/16	7 800 (537)	3900 (268)
1/2	-8-HN-RT	1.84 (46.7)	0.47 (11.9)	7/8	7 700 (530)	3800 (261)

## Male NPT to Male ISO Tapered Thread (RT)

NPT Size in.	ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
			A	E	F	316 SS, Steel	Brass
1/8	1/8	-2-HN-2RT	1.01 (25.6)	0.19 (4.8)	7/16	10 000 (689)	5000 (344)
1/4	1/4	-4-HN-4RT	1.40 (35.6)	0.28 (7.1)	9/16	8 000 (551)	4000 (275)
3/8	3/8	-6-HN-6RT	1.43 (36.3)	0.38 (9.6)	11/16	7 800 (537)	3900 (268)
1/2	1/2	-8-HN-8RT	1.84 (46.7)	0.47 (11.9)	7/8	7 700 (530)	3800 (261)
3/4	3/4	-12-HN-12RT	1.84 (46.7)	0.62 (15.7)	1 1/16	7 300 (502)	3600 (248)
1	1	-16-HN-16RT	2.32 (58.9)	0.88 (22.4)	1 3/8	5 300 (365)	2600 (179)

### Hex Nipples

PIPE  
FITTINGS



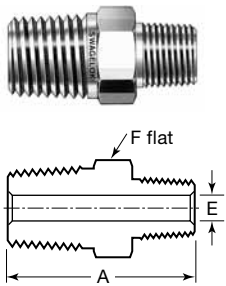
### Male NPT to Male ISO Parallel Thread (RS)

NPT Size in.	ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)					Pressure Ratings <sup>②</sup> psig (bar)	
			A	B	C	E <sup>①</sup>	F	316 SS, Steel	Brass
1/8	1/8	-2-HN-2RS	1.09 (27.7)	0.32 (8.1)	0.54 (13.7)	0.16 (4.1)	9/16	11 400 (785)	5700 (392)
1/4	1/4	-4-HN-4RS	1.45 (36.8)	0.47 (11.9)	0.70 (17.8)	0.23 (5.8)	3/4	10 300 (709)	5100 (351)
3/8	3/8	-6-HN-6RS	1.48 (37.6)	0.47 (11.9)	0.86 (21.8)	0.31 (7.9)	7/8	10 300 (709)	5100 (351)
1/2	1/2	-8-HN-8RS	1.75 (44.4)	0.55 (14.0)	1.02 (25.9)	0.47 (11.9)	1 1/16	7 600 (523)	3800 (261)
3/4	3/4	-12-HN-12RS	1.93 (49.0)	0.63 (16.0)	1.25 (31.8)	0.62 (15.7)	1 5/16	7 300 (502)	3600 (248)
1	1	-16-HN-16RS	2.23 (56.6)	0.71 (18.0)	1.53 (38.9)	0.78 (19.8)	1 5/8	7 400 (509)	3700 (254)

For gasket information, see page 173.

- ① The E dimension is the minimum nominal opening. These fittings may have a larger opening at one end.
- ② Pressure ratings are for the NPT end connections. Pressure ratings for the male ISO end connections are dependent on the selected gasket. Contact your authorized Swagelok representative for more pressure-temperature ratings.

### Hex Reducing Nipples



### Male NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		A	E <sup>①</sup>	F	316 SS, Steel	Brass
1/8 to 1/16	-2-HRN-1	1.01 (25.6)	0.12 (3.0)	7/16	11 000 (757)	5500 (378)
1/4 to 1/8	-4-HRN-2	1.22 (31.0)	0.19 (4.8)	9/16	10 000 (689)	5000 (344)
3/8 to 1/8	-6-HRN-2	1.25 (31.8)	0.19 (4.8)	11/16	10 000 (689)	5000 (344)
3/8 to 1/4	-6-HRN-4	1.43 (36.3)	0.28 (7.1)	11/16	8 000 (551)	4000 (275)
1/2 to 1/8	-8-HRN-2	1.47 (37.3)	0.19 (4.8)	7/8	7 700 (530)	3800 (261)
1/2 to 1/4	-8-HRN-4	1.65 (41.9)	0.28 (7.1)	7/8	8 000 (551)	4000 (275)
1/2 to 3/8	-8-HRN-6	1.65 (41.9)	0.38 (9.6)	7/8	7 800 (537)	3900 (268)
3/4 to 1/4	-12-HRN-4	1.65 (41.9)	0.28 (7.1)	1 1/16	8 000 (551)	4000 (275)
3/4 to 1/2	-12-HRN-8	1.84 (46.7)	0.47 (11.9)	1 1/16	7 700 (530)	3800 (261)
1 to 1/4	-16-HRN-4	1.94 (49.3)	0.28 (7.1)	1 3/8	5 300 (365)	2600 (179)
1 to 1/2	-16-HRN-8	2.13 (54.1)	0.47 (11.9)	1 3/8	7 700 (530)	3800 (261)
1 to 3/4	-16-HRN-12	2.13 (54.1)	0.62 (15.7)	1 3/8	7 300 (502)	3600 (248)
<b>Heavy-Wall Male NPT</b>						
1/2 to 1/4	SS-8-HRN-4-10K	1.65 (41.9)	0.23 (5.8)	7/8	10 000 (689)	—

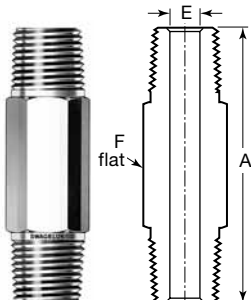
- ① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the larger end.

### Male ISO Tapered Thread (RT)

ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
		A	E <sup>①</sup>	F	316 SS, Steel	Brass
3/8 to 1/4	-6-HRNT-4RT	1.43 (36.3)	0.28 (7.1)	11/16	7800 (537)	3900 (268)
1/2 to 1/8	-8-HRNT-2RT	1.47 (37.3)	0.19 (4.8)	7/8	7700 (530)	3800 (261)
1/2 to 3/8	-8-HRNT-6RT	1.65 (41.9)	0.38 (9.6)	7/8	7800 (537)	3900 (268)

- ① The E dimension is the minimum nominal opening. These fittings may have a larger opening at the larger end.

### Hex Long Nipples



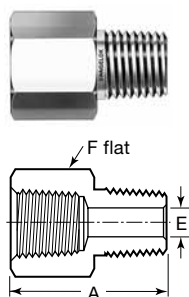
### Male NPT

NPT Size in.	A (Available Lengths) in.						Basic Ordering Number	Dimensions in. (mm)		Pressure Ratings psig (bar)	
	1.50	2.00	2.50	3.00	4.00	6.00		E	F	316 SS, Steel	Brass
1/8	✓	✓	✓	✓	—	—	-2-HLN-	0.19 (4.8)	7/16	10 000 (689)	5000 (344)
1/4	✓	✓	✓	✓	✓	—	-4-HLN-	0.28 (7.1)	9/16	8 000 (551)	4000 (275)
3/8	✓	✓	✓	✓	✓	—	-6-HLN-	0.38 (9.6)	11/16	7 800 (537)	3900 (268)
1/2	—	✓	—	✓	✓	✓	-8-HLN-	0.47 (11.9)	7/8	7 700 (530)	3800 (261)
3/4	—	✓	—	✓	✓	—	-12-HLN-	0.62 (15.7)	1 1/16	7 300 (502)	3600 (248)
1	—	—	—	✓	✓	—	-16-HLN-	0.88 (22.4)	1 3/8	5 300 (365)	2600 (179)

To order, insert the material designator as a prefix and the available length as a suffix to the basic ordering number.

Example: **SS-2-HLN-1.50**

## Adapters



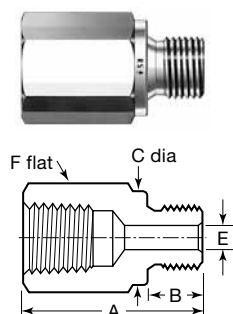
## Female to Male NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/8	-2-A	1.10 (27.9)	0.19 (4.8)	9/16	6 500 (447)	3200 (220)
1/4	-4-A	1.40 (35.6)	0.28 (7.1)	3/4	6 600 (454)	3300 (227)
3/8	-6-A	1.51 (38.4)	0.38 (9.6)	7/8	5 300 (365)	2600 (179)
1/2	-8-A	1.94 (49.3)	0.47 (11.9)	1 1/16	4 900 (337)	2400 (165)
3/4	-12-A	2.02 (51.3)	0.62 (15.7)	1 5/16	4 600 (316)	2300 (158)
1	-16-A	2.28 (57.9)	0.88 (22.4)	1 5/8	4 400 (303)	2200 (151)
Heavy-Wall Female to Male NPT						
1/4	SS-4-A-10K	1.43 (36.3)	0.23 (5.8)	1	10 000 (689)	—
1/2	SS-8-A-10K	2.02 (51.3)	0.39 (9.9)	1 1/2	10 000 (689)	—

## Female to Male ISO Tapered Thread (RT)

ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/8	-2-A-RT	1.09 (27.7)	0.19 (4.8)	9/16	6500 (447)	3200 (220)
1/4	-4-A-RT	1.42 (36.1)	0.28 (7.1)	3/4	6600 (454)	3300 (227)
3/8	-6-A-RT	1.50 (38.1)	0.38 (9.6)	7/8	5300 (365)	2600 (179)
1/2	-8-A-RT	1.95 (49.5)	0.47 (11.9)	1 1/16	4900 (337)	2400 (165)

## Female NPT to Male ISO Parallel Thread (RS)

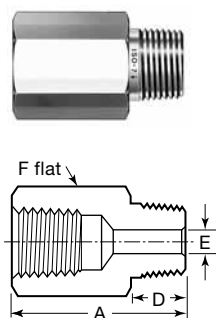


NPT Size in.	ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)					Pressure Ratings <sup>①</sup> psig (bar)	
			A	B	C	E	F	316 SS, Steel	Brass
1/8	1/8	-2-A-2RS	0.99 (25.1)	0.32 (8.1)	0.54 (13.7)	0.16 (4.1)	9/16	6500 (447)	3200 (220)
1/4	1/4	-4-A-4RS	1.32 (33.5)	0.47 (11.9)	0.70 (17.8)	0.23 (5.8)	3/4	6600 (454)	3300 (227)
3/8	3/8	-6-A-6RS	1.41 (35.8)	0.47 (11.9)	0.86 (21.8)	0.31 (7.9)	7/8	5300 (365)	2600 (179)
1/2	1/2	-8-A-8RS	1.74 (44.2)	0.55 (14.0)	1.02 (25.9)	0.47 (11.9)	1 1/16	4900 (337)	2400 (165)
3/4	3/4	-12-A-12RS	1.89 (48.0)	0.63 (16.0)	1.25 (31.8)	0.62 (15.7)	1 5/16	4600 (316)	2300 (158)
1	1	-16-A-16RS	2.10 (53.3)	0.71 (18.0)	1.53 (38.9)	0.78 (19.8)	1 5/8	4400 (303)	2200 (151)

For gasket information, see page 173.

① Pressure ratings are for the NPT end connection. Pressure ratings for the male ISO end connections are dependent on the selected gasket. Contact your authorized Swagelok representative for more pressure-temperature ratings.

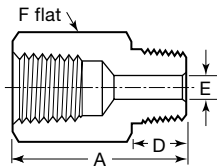
## Female NPT to Male ISO Tapered Thread (RT)



NPT Size in.	ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)				Pressure Ratings psig (bar)	
			A	D	E	F	316 SS, Steel	Brass
1/8	1/8	-2-A-2RT	1.09 (27.7)	0.38 (9.6)	0.19 (4.8)	9/16	6500 (447)	3200 (220)
1/4	1/4	-4-A-4RT	1.42 (36.1)	0.56 (14.2)	0.28 (7.1)	3/4	6600 (454)	3300 (227)
3/8	3/8	-6-A-6RT	1.50 (38.1)	0.56 (14.2)	0.38 (9.6)	7/8	5300 (365)	2600 (179)
1/2	1/2	-8-A-8RT	1.94 (49.3)	0.75 (19.1)	0.47 (11.9)	1 1/16	4900 (337)	2400 (165)
3/4	3/4	-12-A-12RT	2.02 (51.3)	0.75 (19.1)	0.62 (15.7)	1 5/16	4600 (316)	2300 (158)
1	1	-16-A-16RT	2.30 (58.4)	0.94 (23.9)	0.88 (22.4)	1 5/8	4400 (303)	2200 (151)

Adapters

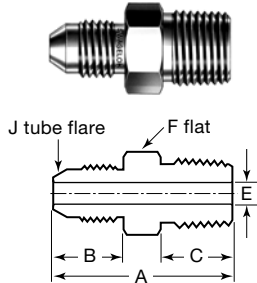
PIPE FITTINGS



Female ISO Tapered Thread to Male NPT

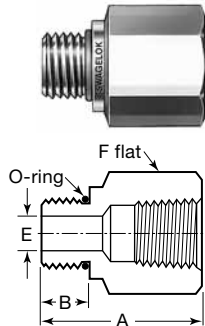
ISO Thread Size in.	NPT Size in.	Basic Ordering Number	Dimensions in. (mm)				Pressure Ratings psig (bar)	
			A	D	E	F	316 SS, Steel	Brass
1/4	1/4	-4-AT-4	1.43 (36.3)	0.56 (14.2)	0.28 (7.1)	3/4	6600 (454)	3300 (227)
3/8	3/8	-6-AT-6	1.51 (38.4)	0.56 (14.2)	0.38 (9.6)	7/8	5300 (365)	2600 (179)
1/2	1/2	-8-AT-8	1.96 (49.8)	0.75 (19.1)	0.47 (11.9)	1 1/16	4900 (337)	2400 (165)

Male JIC (AN) to Male NPT



JIC Thread Size in.	NPT Size in.	Basic Ordering Number	Dimensions in. (mm)						Pressure Ratings psig (bar)	
			A	B	C	E	F	J	316 SS	Steel
7/16-20	1/4	-4-AN-1-4	1.40 (35.6)	0.55 (13.0)	0.56 (14.2)	0.17 (4.3)	9/16	1/4	8000 (551)	5000 (344)
9/16-18	1/4	-6-AN-1-4	1.43 (36.3)	0.56 (14.2)	0.56 (14.2)	0.28 (7.1)	5/8	3/8	8000 (551)	5000 (344)
	3/8	-6-AN-1-6	1.43 (36.3)	0.56 (14.2)	0.56 (14.2)	0.30 (7.6)	11/16	3/8	7800 (537)	5000 (344)
3/4-16	1/2	-8-AN-1-8	1.75 (44.4)	0.66 (16.8)	0.75 (19.0)	0.39 (9.9)	7/8	1/2	7700 (530)	4500 (310)
1 1/16-12	3/4	-12-AN-1-12	1.99 (50.5)	0.86 (21.8)	0.75 (19.0)	0.61 (15.5)	1 1/8	3/4	7000 (482)	3500 (241)
1 5/16-12	1	-16-AN-1-16	2.30 (58.4)	0.91 (23.1)	0.94 (23.9)	0.84 (21.3)	1 3/8	1	5000 (344)	3000 (206)

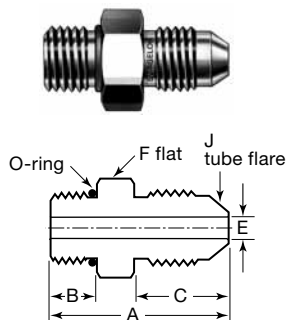
Male SAE/MS Straight Thread to Female NPT



SAE/MS Thread Size in.	NPT Size in.	Basic Ordering Number	Dimensions in. (mm)				Uniform O-Ring <sup>①</sup> Size	Pressure Ratings 316 SS, Steel psig (bar)
			A	B	E	F		
7/16-20	1/4	-4-SAE-7-4	1.32 (33.5)	0.36 (9.1)	0.20 (5.1)	3/4	-904	4568 (314)
9/16-18	3/8	-6-SAE-7-6	1.36 (34.5)	0.39 (9.9)	0.28 (7.1)	15/16	-906	4568 (314)
3/4-16	1/2	-8-SAE-7-8	1.62 (41.1)	0.44 (11.2)	0.42 (10.7)	1 1/16	-908	4568 (314)
1 1/16-12	3/4	-12-SAE-7-12	1.82 (46.2)	0.59 (15.0)	0.66 (16.7)	1 3/8	-912	3626 (249)
1 5/16-12	1	-16-SAE-7-16	2.12 (53.8)	0.59 (15.0)	0.88 (22.4)	1 5/8	-916	2900 (199)

① O-ring material is 90 durometer fluorocarbon FKM.

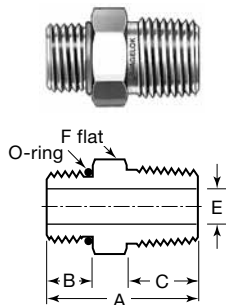
Male SAE/MS Straight Thread to Male JIC (AN)



SAE/MS Thread Size in.	JIC Thread Size in.	Basic Ordering Number	Dimensions in. (mm)						Uniform O-Ring <sup>①</sup> Size	Pressure Ratings 316 SS, Steel psig (bar)
			A	B	C	E	F	J		
7/16-20	7/16-20	-4-SAE-1-4AN	1.19 (30.2)	0.36 (9.1)	0.55 (14.0)	0.17 (4.3)	9/16	1/4	-904	4568 (314)
9/16-18	9/16-18	-6-SAE-1-6AN	1.26 (32.0)	0.39 (9.9)	0.56 (14.2)	0.29 (7.4)	11/16	3/8	-906	4568 (314)
3/4-16	3/4-16	-8-SAE-1-8AN	1.44 (36.6)	0.44 (11.2)	0.66 (16.8)	0.39 (9.9)	7/8	1/2	-908	4568 (314)
1 1/16-12	1 1/16-12	-12-SAE-1-12AN	1.87 (47.5)	0.59 (15.0)	0.86 (21.8)	0.61 (15.5)	1 1/4	3/4	-912	3626 (249)
1 5/16-12	1 5/16-12	-16-SAE-1-16AN	1.98 (50.3)	0.59 (15.0)	0.91 (23.1)	0.84 (21.3)	1 1/2	1	-916	2900 (199)

① O-ring material is 90 durometer fluorocarbon FKM.

## Adapters



### Male SAE/MS Straight Thread to Male NPT

SAE/MS Thread Size in.	NPT Size in.	Basic Ordering Number	Dimensions in. (mm)					Uniform O-Ring <sup>①</sup> Size	Pressure Ratings 316 SS, Steel psig (bar)
			A	B	C	E	F		
7/16-20	1/4	-4-SAE-1-4	1.20 (30.5)	0.36 (9.1)	0.56 (14.2)	0.20 (5.1)	9/16	-904	4568 (314)
9/16-18	3/8	-6-SAE-1-6	1.26 (32.0)	0.36 (9.1)	0.56 (14.2)	0.28 (7.1)	11/16	-906	4568 (314)
3/4-16	1/2	-8-SAE-1-8	1.53 (38.9)	0.44 (11.2)	0.75 (19.1)	0.42 (10.7)	7/8	-908	4568 (314)
1 1/16-12	3/4	-12-SAE-1-12	1.75 (44.4)	0.59 (15.0)	0.75 (19.1)	0.62 (15.7)	1 1/4	-912	3626 (249)
1 5/16-12	1	-16-SAE-1-16	2.00 (50.8)	0.59 (15.0)	0.94 (23.9)	0.88 (22.4)	1 1/2	-916	2900 (199)

① O-ring material is 90 durometer fluorocarbon FKM.

PIPE FITTINGS

## Adapter Gaskets



RS/RSD Gasket

### Steel and Stainless Steel (RS Fitting)

RS fitting steel gaskets provide a seal with male ISO/BSP parallel threads.

The RS gasket is of a fluorocarbon FKM inner ring bonded to a carbon steel outer ring.

The RSD (DIN-style) gasket is a fluorocarbon FKM inner ring bonded to a stainless steel or carbon steel outer ring as recommended in ISO 1179-1973. It can be used with end connections designed in accordance with DIN 3852 Part 2.

The RSNB gasket is an all-metal 304L stainless steel gasket similar to DIN 7603 form D.



RSNB Gasket

ISO Thread Size, in.	Ordering Number		
	RS Gasket <sup>①</sup>	RSD Gasket <sup>②</sup>	RSNB Gasket
1/8	S-2-RS-2V	SS-2-RSD-2V	304L-2-RSNB-2
1/4	S-4-RS-2V <sup>③</sup>	SS-4-RSD-2V	304L-4-RSNB-2
3/8	S-6-RS-2V <sup>③</sup>	SS-6-RSD-2V	304L-6-RSNB-2
1/2	S-8-RS-2V <sup>③</sup>	SS-8-RSD-2V	304L-8-RSNB-2
3/4	S-12-RS-2V	SS-12-RSD-2V	304L-12-RSNB-2
1	S-16-RS-2V	SS-16-RSD-2V	304L-16-RSNB-2

① Also available with a Buna inner ring. To order, replace **V** with **B** in the ordering number.

Example: S-2-RS-2**B**

② Also available with a carbon steel outer ring. To order, replace **SS** with **S** in the ordering number.

Example: **S**-8-RSD-2V

③ Also available with a stainless steel outer ring. To order, replace **S** with **SS** in the ordering number.

Example: **SS**-8-RS-2V



### Copper (RP and RS Fitting)

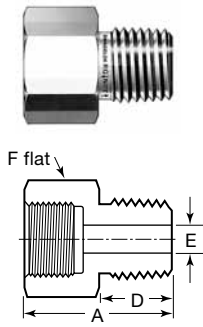
The RP and RS fitting copper gasket provides a seal with male ISO/BSP parallel threads.

ISO Thread Size, in.	Ordering Number
1/8	CU-2-RP-2
1/4	CU-4-RP-2
3/8	CU-6-RP-2
1/2	CU-8-RP-2
3/4	CU-12-RP-2
1	CU-16-RP-2

Contact your authorized Swagelok representative for gasket dimensions.



### Gauge Adapters



PIPE FITTINGS

### Female ISO Parallel (Gauge) Thread to Male NPT

ISO Thread Size in.	NPT Size in.	Ordering Number	Dimensions in. (mm)				Pressure Ratings 316 SS psig (bar)
			A	D	E	F	
1/4	1/4	SS-4-AG-4	1.19 (30.2)	0.56 (14.2)	0.22 (5.6)	3/4	5700 (392)
3/8	3/8	SS-6-AG-6	1.27 (32.2)	0.56 (14.2)	0.26 (6.6)	15/16	5700 (392)
1/2	1/2	SS-8-AG-8	1.68 (42.7)	0.75 (19.1)	0.28 (7.1)	1 1/16	3900 (268)

### Gauge Adapter Gaskets



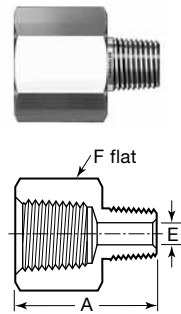
#### Copper and Nickel (RG, Gauge Fitting)

The RG fitting gasket provides a seal on pressure gauges equipped with ISO/BSP parallel male threads.

ISO Thread Size, in.	Ordering Number	
	Copper	Nickel
1/4	CU-4-RG-2	NI-4-RG-2
3/8	CU-6-RG-2	NI-6-RG-2
1/2	CU-8-RG-2	NI-8-RG-2

Contact your authorized Swagelok representative for gasket dimensions.

### Reducing Adapters



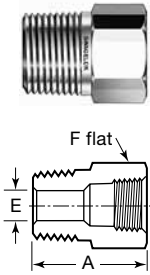
### Female to Male NPT

Female NPT Size in.	Male NPT Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
			A	E	F	316 SS, Steel	Brass
1/8	1/16	-2-RA-1	1.09 (27.7)	0.12 (3.0)	9/16	6 500 (447)	3200 (220)
1/4	1/8	-4-RA-2	1.26 (32.0)	0.19 (4.8)	3/4	6 600 (454)	3300 (227)
3/8	1/8	-6-RA-2	1.33 (33.8)	0.19 (4.8)	7/8	5 300 (365)	2600 (179)
	1/4	-6-RA-4	1.50 (38.1)	0.28 (7.1)			
1/2	1/8	-8-RA-2	1.58 (40.1)	0.19 (4.8)	1 1/16	4 900 (337)	2400 (165)
	1/4	-8-RA-4	1.76 (44.7)	0.28 (7.1)			
	3/8	-8-RA-6	1.75 (44.4)	0.38 (9.6)			
3/4	1/4	-12-RA-4	1.85 (47.0)	0.28 (7.1)	1 5/16	4 600 (316)	2300 (158)
	3/8	-12-RA-6	1.82 (46.2)	0.38 (9.6)			
	1/2	-12-RA-8	2.02 (51.3)	0.47 (11.9)			
1	1/4	-16-RA-4	1.96 (49.8)	0.28 (7.1)	1 5/8	4 400 (303)	2200 (151)
	1/2	-16-RA-8	2.16 (54.9)	0.47 (11.9)			
	3/4	-16-RA-12	2.17 (55.1)	0.62 (15.7)			
<b>Heavy-Wall Female to Male NPT</b>							
1/2	1/4	SS-8-RA-4-10K	1.81 (46.0)	0.23 (5.8)	1 1/2	10 000 (689)	—

### Female to Male ISO Tapered Thread (RT)

Female ISO Thread Size in.	Male ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
			A	E	F	316 SS, Steel	Brass
1/4	1/8	-4-RAT-2RT	1.26 (32.0)	0.19 (4.8)	3/4	6600 (454)	3300 (227)
3/8	1/4	-6-RAT-4RT	1.50 (38.1)	0.28 (7.1)	7/8	5300 (365)	2600 (179)
1/2	1/4	-8-RAT-4RT	1.76 (44.7)	0.28 (7.1)	1 1/16	4900 (337)	2400 (165)
	3/8	-8-RAT-6RT	1.75 (44.4)	0.38 (9.6)			

### Reducing Bushings



### Male to Female NPT

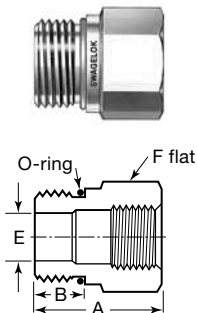
Male NPT Size in.	Female NPT Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
			A	E	F	316 SS, Steel	Brass
1/8	1/16	-2-RB-1	1.03 (26.2)	0.19 (4.8)	7/16	6 700 (461)	3300 (227)
1/4	1/8	-4-RB-2	1.06 (26.9)	0.28 (7.1)	9/16	6 500 (447)	3300 (227)
3/8	1/8	-6-RB-2	0.86 (21.8)	0.34 (8.6)	11/16	9 200 (633)	4700 (323)
	1/4	-6-RB-4	1.19 (30.2)	0.38 (9.6)	3/4	6 600 (454)	3300 (227)
1/2	1/8	-8-RB-2	1.08 (27.4)	0.34 (8.6)	7/8	12 200 (840)	6200 (427)
	1/4	-8-RB-4		0.45 (11.4)		8 300 (571)	4400 (303)
	3/8	-8-RB-6		0.47 (11.9)		5 300 (365)	2600 (179)
3/4	1/4	-12-RB-4	1.08 (27.4)	0.45 (11.4)	1 1/16	12 000 (826)	6000 (413)
	3/8	-12-RB-6		0.59 (15.0)		8 200 (564)	4300 (296)
	1/2	-12-RB-8		1.63 (41.4)		0.62 (15.7)	4 900 (337)
1	1/4	-16-RB-4	1.37 (34.8)	0.45 (11.4)	1 3/8	14 500 (999)	7400 (509)
	3/8	-16-RB-6		0.59 (15.0)		11 600 (799)	5900 (406)
	1/2	-16-RB-8		0.73 (18.5)		8 600 (592)	4300 (296)
	3/4	-16-RB-12		1.85 (47.0)		0.88 (22.4)	5 300 (365)

PIPE FITTINGS

### Male to Female ISO Tapered Thread (RT)

Male ISO Thread Size in.	Female ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
			A	E	F	316 SS, Steel	Brass
1/4	1/8	-4-RBT-2RT	1.06 (26.9)	0.28 (7.1)	9/16	6500 (447)	3200 (220)
3/8	1/4	-6-RBT-4RT	1.19 (30.2)	0.38 (9.6)	3/4	6600 (454)	3300 (227)
1/2	1/4	-8-RBT-4RT	1.08 (27.4)	0.44 (11.2)	7/8	8300 (571)	4400 (303)
	3/8	-8-RBT-6RT	1.41 (35.8)	0.47 (11.9)		5300 (365)	2600 (179)

### Reducers

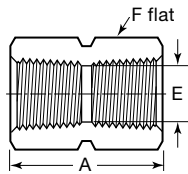


### Male to Female SAE/MS Straight Thread (ST)

Male Thread Size in.	Female Thread Size in.	Basic Ordering Number	Dimensions in. (mm)				Uniform O-Ring <sup>①</sup> Size	Pressure Ratings 316 SS, Steel psig (bar)
			A	B	E	F		
9/16-18	7/16-20	-6-RBST-4	1.12 (28.4)	0.39 (9.9)	0.28 (7.1)	13/16	-906	4568 (314)
3/4-16	7/16-20	-8-RBST-4	0.98 (24.9)	0.44 (11.2)	0.39 (9.9)	7/8	-908	4568 (314)
	9/16-18	-8-RBST-6	1.19 (30.2)	0.44 (11.2)	0.42 (10.7)	1	-908	4568 (314)
7/8-14	9/16-18	-10-RBST-6	1.10 (27.9)	0.50 (12.7)	0.50 (12.7)	1	-910	3626 (249)
	3/4-16	-10-RBST-8	1.42 (36.1)	0.50 (12.7)	0.50 (12.7)	1 3/16	-910	3626 (249)
1 1/16-12	3/4-16	-12-RBST-8	1.27 (32.3)	0.59 (15.0)	0.65 (16.5)	1 1/4	-912	3626 (249)
1 5/16-12	1 1/16-12	-16-RBST-12	1.61 (40.9)	0.59 (15.0)	0.87 (22.1)	1 5/8	-916	2900 (199)
1 5/8-12	1 5/16-12	-20-RBST-16	1.98 (50.3)	0.59 (15.0)	1.09 (27.7)	2 1/8	-920	2320 (159)
1 7/8-12	1 5/16-12	-24-RBST-16	1.27 (32.3)	0.59 (15.0)	1.23 (31.2)	2 1/8	-924	2320 (159)

① O-ring material is 90 durometer fluorocarbon FKM.

### Hex Couplings



PIPE  
FITTINGS

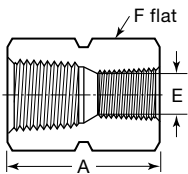
### Female NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/8	-2-HCG	0.81 (20.6)	0.34 (8.6)	9/16	6 500 (447)	3200 (220)
1/4	-4-HCG	1.19 (30.2)	0.45 (11.4)	3/4	6 600 (454)	3300 (227)
3/8	-6-HCG	1.31 (33.3)	0.59 (15.0)	7/8	5 300 (365)	2600 (179)
1/2	-8-HCG	1.56 (39.6)	0.73 (18.5)	1 1/16	4 900 (337)	2400 (165)
3/4	-12-HCG	1.62 (41.1)	0.94 (23.9)	1 5/16	4 600 (316)	2300 (158)
1	-16-HCG	2.00 (50.8)	1.17 (29.7)	1 5/8	4 400 (303)	2200 (151)
<b>Heavy-Wall Female NPT</b>						
1/4	SS-4-HCG-10K	1.19 (30.2)	0.45 (11.4)	1	10 000 (689)	—
1/2	SS-8-HCG-10K	1.56 (39.6)	0.73 (18.5)	1 1/2	10 000 (689)	—

### Female ISO Tapered Thread (RT)

ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/8	-2-HCG-RT	0.81 (20.6)	0.33 (8.4)	9/16	6500 (447)	3200 (220)
1/4	-4-HCG-RT	1.19 (30.2)	0.44 (11.2)	3/4	6600 (454)	3300 (227)
3/8	-6-HCG-RT	1.31 (33.3)	0.58 (14.7)	7/8	5300 (365)	2600 (179)
1/2	-8-HCG-RT	1.56 (39.6)	0.72 (18.3)	1 1/16	4900 (337)	2400 (165)

### Hex Reducing Couplings



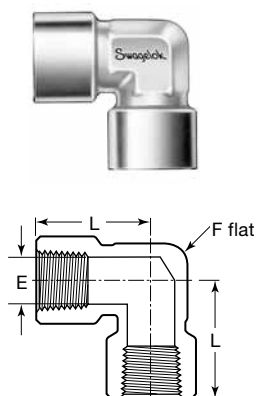
### Female NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		A	E	F	316 SS, Steel	Brass
1/4 to 1/8	-4-HRCG-2	1.22 (31.0)	0.34 (8.6)	3/4	6 600 (454)	3300 (227)
3/8 to 1/4	-6-HRCG-4	1.38 (35.1)	0.45 (11.4)	7/8	5 300 (365)	2600 (179)
1/2 to 1/8	-8-HRCG-2	1.56 (39.6)	0.34 (8.6)	1 1/16	4 900 (337)	2400 (165)
1/2 to 1/4	-8-HRCG-4	1.75 (44.4)	0.45 (11.4)	1 1/16	4 900 (337)	2400 (165)
1/2 to 3/8	-8-HRCG-6	1.78 (45.2)	0.59 (15.0)	1 1/16	4 900 (337)	2400 (165)
3/4 to 1/4	-12-HRCG-4	1.81 (46.0)	0.45 (11.4)	1 5/16	4 600 (316)	2300 (158)
3/4 to 1/2	-12-HRCG-8	2.06 (52.3)	0.73 (18.5)	1 5/16	4 600 (316)	2300 (158)
1 to 1/2	-16-HRCG-8	2.19 (55.6)	0.73 (18.5)	1 5/8	4 400 (303)	2200 (151)
1 to 3/4	-16-HRCG-12	2.25 (57.2)	0.94 (23.9)	1 5/8	4 400 (303)	2200 (151)
<b>Heavy-Wall Female NPT</b>						
1/2 to 1/4	SS-8-HRCG-4-10K	1.75 (44.4)	0.45 (11.4)	1 1/2	10 000 (689)	—

### Female ISO Tapered Thread (RT)

ISO Thread Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		A	E	F	316 SS, Steel	Brass
3/8 to 1/4	-6-HRCGT-4RT	1.38 (35.1)	0.44 (11.2)	7/8	5300 (365)	2600 (179)
1/2 to 1/4	-8-HRCGT-4RT	1.75 (44.4)	0.44 (11.2)	1 1/16	4900 (337)	2400 (165)
1/2 to 3/8	-8-HRCGT-6RT	1.78 (45.2)	0.58 (14.7)	1 1/16	4900 (337)	2400 (165)

**Elbows**



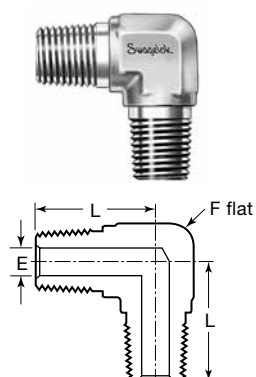
**Female NPT**

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		E	L	F	316 SS, Steel	Brass
1/8	-2-E	0.34 (8.6)	1.04 (26.4)	1/2	6 200 (427)	3100 (213)
1/4	-4-E	0.45 (11.4)	1.17 (29.7)	11/16	7 200 (496)	3600 (248)
3/8	-6-E	0.59 (15.0)	1.42 (36.1)	13/16	5 600 (385)	2800 (192)
1/2	-8-E	0.73 (18.5)	1.56 (39.6)	1	5 600 (385)	2800 (192)
3/4	-12-E	0.94 (23.9)	1.92 (48.8)	1 1/4	5 100 (351)	2500 (172)
1	-16-E	1.17 (29.7)	1.91 (48.5)	1 11/16	6 400 (440)	3200 (220)
<b>Heavy-Wall Female NPT</b>						
1/4	SS-4-E-10K	0.45 (11.4)	1.56 (39.6)	1	10 000 (689)	—
1/2	SS-8-E-10K	0.73 (18.5)	1.97 (50.0)	1 11/16	10 000 (689)	—

**Female ISO Tapered Thread (RT)**

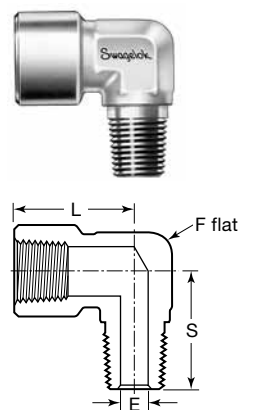
ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Pressure Ratings psig (bar)	
		E	L	F	316 SS, Steel	Brass
1/4	-4-E-RT	0.44 (11.2)	1.17 (29.7)	11/16	7200 (496)	3600 (248)
3/8	-6-E-RT	0.58 (14.7)	1.42 (36.1)	13/16	5600 (385)	2800 (192)
1/2	-8-E-RT	0.72 (18.3)	1.56 (39.6)	1	5600 (385)	2800 (192)

**Male NPT**



NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			Pressure Ratings, psig (bar)	
		E	L	F	316 SS, Steel	Brass
1/8	-2-ME	0.19 (4.8)	0.88 (22.4)	7/16	10 000 (689)	5000 (344)
1/4	-4-ME	0.28 (7.1)	1.05 (26.7)	1/2	8 000 (551)	4000 (275)
3/8	-6-ME	0.38 (9.6)	1.17 (29.7)	11/16	7 800 (537)	3900 (268)
1/2	-8-ME	0.47 (11.9)	1.45 (36.8)	13/16	7 700 (530)	3800 (261)

**Street Elbows**

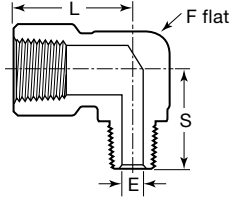


**Female to Male NPT**

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)				Pressure Ratings, psig (bar)	
		E	L	S	F	316 SS, Steel	Brass
1/16	-1-SE	0.12 (3.0)	0.86 (21.8)	0.88 (22.4)	7/16	9200 (633)	4600 (316)
1/8	-2-SE	0.19 (4.8)	1.04 (26.4)	0.87 (22.1)	1/2	6200 (427)	3100 (213)
1/4	-4-SE	0.28 (7.1)	1.17 (29.7)	1.17 (29.7)	11/16	7200 (496)	3600 (248)
3/8	-6-SE	0.38 (9.6)	1.42 (36.1)	1.26 (32.0)	13/16	5600 (385)	2800 (192)
1/2	-8-SE	0.47 (11.9)	1.56 (39.6)	1.56 (39.6)	1	5600 (385)	2800 (192)
3/4	-12-SE	0.62 (15.7)	1.92 (48.8)	1.67 (42.4)	1 1/4	5100 (351)	2500 (172)
1	-16-SE	0.88 (22.4)	1.91 (48.5)	1.94 (49.3)	1 11/16	5300 (365)	2600 (179)

## Reducing Street Elbows

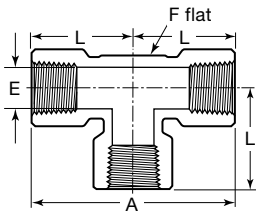
PIPE FITTINGS



## Female to Male NPT

Female NPT Size in.	Male NPT Size in.	Basic Ordering Number	Dimensions in. (mm)				Pressure Ratings psig (bar)	
			E	L	S	F	316 SS, Steel	Brass
1/8	1/16	-2-RSE-1	0.12 (3.0)	1.04 (26.4)	0.87 (22.1)	1/2	6200 (427)	3100 (213)
1/4	1/8	-4-RSE-2	0.19 (4.8)	1.17 (29.7)	1.00 (25.4)	11/16	7200 (496)	3600 (248)
3/8	1/4	-6-RSE-4	0.28 (7.1)	1.42 (36.1)	1.26 (32.0)	13/16	5600 (385)	2800 (192)
1/2	1/4	-8-RSE-4	0.28 (7.1)	1.56 (39.6)	1.38 (35.1)	1	5600 (385)	2800 (192)
	3/8	-8-RSE-6	0.38 (9.6)	1.56 (39.6)	1.38 (35.1)		5600 (385)	2800 (192)

## Tees



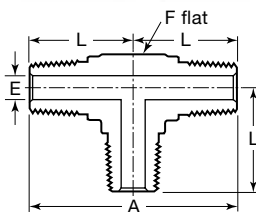
## Female NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)				Pressure Ratings, psig (bar)	
		A	E	L	F	316 SS, Steel	Brass
1/8	-2-T	2.08 (52.8)	0.34 (8.6)	1.04 (26.4)	1/2	6 200 (427)	3100 (213)
1/4	-4-T	2.34 (59.4)	0.45 (11.4)	1.17 (29.7)	11/16	7 200 (496)	3600 (248)
3/8	-6-T	2.84 (72.1)	0.59 (15.0)	1.42 (36.1)	13/16	5 600 (385)	2800 (192)
1/2	-8-T	3.12 (79.2)	0.73 (18.5)	1.56 (39.6)	1	5 600 (385)	2800 (192)
3/4	-12-T	3.84 (97.5)	0.94 (23.9)	1.92 (48.8)	1 1/4	5 100 (351)	2500 (172)
1	-16-T	3.82 (97.0)	1.17 (29.7)	1.91 (48.5)	1 11/16	6 400 (440)	3200 (220)
<b>Heavy-Wall Female NPT</b>							
1/4	SS-4-T-10K	3.12 (79.2)	0.45 (11.4)	1.56 (39.6)	1	10 000 (689)	—
1/2	SS-8-T-10K	3.94 (100)	0.73 (18.5)	1.97 (50.0)	1 11/16	10 000 (689)	—

## Female ISO Tapered Thread (RT)

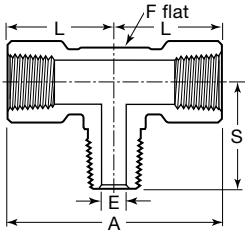
ISO Thread Size in.	Basic Ordering Number	Dimensions in. (mm)				Pressure Ratings psig (bar)	
		A	E	L	F	316 SS, Steel	Brass
1/4	-4-T-RT	2.34 (59.4)	0.44 (11.2)	1.17 (29.7)	11/16	7200 (496)	3600 (248)
3/8	-6-T-RT	2.84 (72.1)	0.58 (14.7)	1.42 (36.1)	13/16	5600 (385)	2800 (192)
1/2	-8-T-RT	3.12 (79.2)	0.72 (18.3)	1.56 (39.6)	1	5600 (385)	2800 (192)

## Male NPT



NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)				Pressure Ratings, psig (bar)	
		A	E	L	F	316 SS, Steel	Brass
1/8	-2-MT	1.76 (44.7)	0.19 (4.8)	0.88 (22.4)	7/16	10 000 (689)	5000 (344)
1/4	-4-MT	2.10 (53.3)	0.28 (7.1)	1.05 (26.7)	1/2	8 000 (551)	4000 (275)
3/8	-6-MT	2.34 (59.4)	0.38 (9.6)	1.17 (29.7)	11/16	7 800 (537)	3900 (268)
1/2	-8-MT	2.90 (73.7)	0.47 (11.9)	1.45 (36.8)	13/16	7 700 (530)	3800 (261)

### Branch Tees

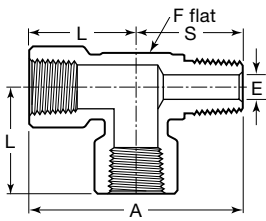


### Male and Female NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)					Pressure Ratings, psig (bar)	
		A	E	L	S	F	316 SS, Steel	Brass
1/8	-2-BT	2.08 (52.8)	0.19 (4.8)	1.04 (26.4)	0.87 (22.1)	1/2	6 200 (427)	3100 (213)
1/4	-4-BT	2.34 (59.4)	0.28 (7.1)	1.17 (29.7)	1.17 (29.7)	11/16	7 200 (496)	3600 (248)
3/8	-6-BT	2.84 (72.1)	0.38 (9.6)	1.42 (36.1)	1.26 (32.0)	13/16	5 600 (385)	2800 (192)
1/2	-8-BT	3.12 (79.2)	0.47 (11.9)	1.56 (39.6)	1.56 (39.6)	1	5 600 (385)	2800 (192)

PIPE FITTINGS

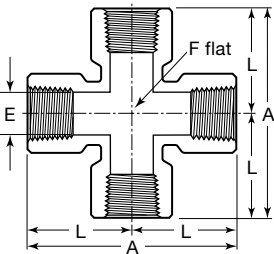
### Street Tees



### Male and Female NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)					Pressure Ratings, psig (bar)	
		A	E	L	S	F	316 SS, Steel	Brass
1/8	-2-ST	1.91 (48.5)	0.19 (4.8)	1.04 (26.4)	0.87 (22.1)	1/2	6200 (427)	3100 (213)
1/4	-4-ST	2.34 (59.4)	0.28 (7.1)	1.17 (29.7)	1.17 (29.7)	11/16	7200 (496)	3600 (248)
3/8	-6-ST	2.68 (68.1)	0.38 (9.6)	1.42 (36.1)	1.26 (32.0)	13/16	5600 (385)	2800 (192)
1/2	-8-ST	3.12 (79.2)	0.47 (11.9)	1.56 (39.6)	1.56 (39.6)	1	5600 (385)	2800 (192)
3/4	-12-ST	3.59 (91.2)	0.62 (15.7)	1.92 (48.8)	1.67 (42.4)	1 1/4	5100 (351)	2500 (172)

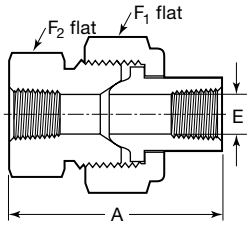
### Crosses



### Female NPT

NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)				Pressure Ratings, psig (bar)	
		A	E	L	F	316 SS, Steel	Brass
1/8	-2-CS	2.08 (52.8)	0.34 (8.6)	1.04 (26.4)	1/2	6200 (427)	3100 (213)
1/4	-4-CS	2.34 (59.4)	0.45 (11.4)	1.17 (29.7)	11/16	7200 (496)	3600 (248)
3/8	-6-CS	2.84 (72.1)	0.59 (15.0)	1.42 (36.1)	13/16	5600 (385)	2800 (192)
1/2	-8-CS	3.12 (79.2)	0.73 (18.5)	1.56 (39.6)	1	5600 (385)	2800 (192)
3/4	-12-CS	3.84 (97.5)	0.94 (23.9)	1.92 (48.8)	1 1/4	5100 (351)	2500 (172)
1	-16-CS	3.82 (97.0)	1.17 (29.7)	1.91 (48.5)	1 11/16	6400 (440)	3200 (220)

### Union Ball Joints

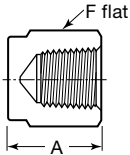


### Female NPT

NPT Size in.	Basic Ordering Number	Dimensions in. (mm)				Pressure Ratings 316 SS, Steel psig (bar)
		A	E	F <sub>1</sub>	F <sub>2</sub>	
1/8	-2-UBJ	1.81 (46.0)	0.27 (6.8)	1 1/8	15/16	8400 (578)
1/4	-4-UBJ	2.34 (59.4)	0.36 (9.1)	1 3/8	1 3/16	6600 (454)
3/8	-6-UBJ	2.50 (63.5)	0.52 (13.2)	1 1/2	1 5/16	5300 (365)
1/2	-8-UBJ	2.69 (68.3)	0.62 (15.7)	1 3/4	1 5/8	6000 (413)
3/4	-12-UBJ	3.12 (79.2)	0.88 (22.4)	2 1/8	1 7/8	4600 (316)
1	-16-UBJ	3.56 (90.4)	1.03 (26.2)	2 1/2	2 3/8	6800 (468)

Union ball joint nuts are silver plated. A lubricant is utilized for assembly.

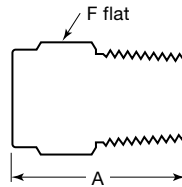
### Pipe Caps



### Female NPT

NPT Size in.	Basic Ordering Number	Dimensions in. (mm)	
		A	F
1/8	-2-CP	0.75 (19.1)	9/16
1/4	-4-CP	0.91 (23.1)	3/4
3/8	-6-CP	1.03 (26.2)	7/8
1/2	-8-CP	1.34 (34.0)	1 1/16
3/4	-12-CP	1.44 (36.6)	1 5/16
1	-16-CP	1.62 (41.1)	1 5/8
Heavy-Wall Female NPT			
1/4	SS-4-CP-10K	1.11 (28.2)	1
1/2	SS-8-CP-10K	1.58 (40.1)	1 1/2

### Pipe Plugs

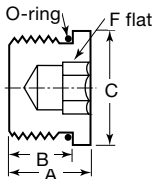


### Male NPT

NPT Size in.	Basic Ordering Number	Dimensions in. (mm)	
		A	F
1/16	-1-P	0.75 (19.1)	5/16
1/8	-2-P	0.75 (19.1)	7/16
1/4	-4-P	0.96 (24.4)	9/16
3/8	-6-P	0.99 (25.1)	11/16
1/2	-8-P	1.21 (30.7)	7/8
3/4	-12-P	1.21 (30.7)	1 1/16
1	-16-P	1.50 (38.1)	1 3/8

For pipe plugs with male ISO/BSP parallel threads (RS), contact your authorized Swagelok representative.

### Hollow Hex Plugs

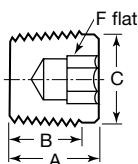


### Male SAE/MS Straight Thread (ST)

SAE/MS Thread Size in.	Basic Ordering Number	Dimensions in. (mm)				Uniform O-Ring <sup>①</sup> Size
		A	B	C	F	
7/16-20	-4-HPST	0.45 (11.4)	0.36 (9.1)	0.56 (14.2)	3/16	-904
9/16-18	-6-HPST	0.48 (12.2)	0.39 (9.9)	0.69 (17.5)	1/4	-906
3/4-16	-8-HPST	0.56 (14.2)	0.44 (11.2)	0.88 (22.4)	5/16	-908
1 1/16-12	-12-HPST	0.75 (19.1)	0.59 (15.0)	1.25 (31.8)	9/16	-912
1 5/16-12	-16-HPST	0.75 (19.1)	0.59 (15.0)	1.50 (38.1)	5/8	-916

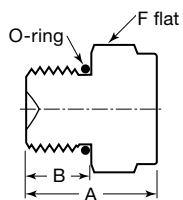
① O-ring material is 90 durometer fluorocarbon FKM.

### Male NPT



NPT Size in.	Basic Ordering Number	Dimensions, in. (mm)			
		A	B	C	F
1/8	SS-2-HP	0.41 (10.4)	0.30 (7.6)	0.37 (9.4)	3/16
1/4	SS-4-HP	0.61 (15.5)	0.49 (12.4)	0.48 (12.1)	1/4
3/8	SS-6-HP	0.59 (15.0)	0.47 (11.9)	0.62 (15.7)	5/16
1/2	SS-8-HP	0.76 (19.3)	0.64 (16.2)	0.76 (19.3)	3/8

## Hex Head Plugs



### Male SAE/MS Straight Thread (ST)

SAE/MS Thread Size in.	Basic Ordering Number	Dimensions in. (mm)			Uniform O-Ring <sup>①</sup> Size
		A	B	F	
7/16-20	-4-PST	0.76 (19.3)	0.36 (9.1)	9/16	-904
9/16-18	-6-PST	0.82 (20.8)	0.39 (9.9)	11/16	-906
3/4-16	-8-PST	0.89 (22.6)	0.44 (11.2)	7/8	-908
1 1/16-12	-12-PST	1.12 (28.4)	0.59 (15.0)	1 1/4	-912
1 5/16-12	-16-PST	1.18 (30.0)	0.59 (15.0)	1 1/2	-916

① O-ring material is 90 durometer fluorocarbon FKM.



## About this document

Thank you for downloading this electronic catalog, which is part of General Product catalog Swagelok published in print. This type of electronic catalog is updated as new information arises or revisions, which may be more current than the printed version.

Swagelok Company is a major developer and provider of fluid system solutions, including products, integration solutions and services for industry research, instrumentation, pharmaceutical, oil and gas, power, petrochemical, alternative fuels, and semiconductor. Our manufacturing facilities, research, service and distribution facilities support a global network of more than 200 authorized sales and service centers in 57 countries.

Visit [www.swagelok.com](http://www.swagelok.com) to locate your Swagelok representative and obtain any information on features, technical information and product references, or to learn about the variety of services available only through authorized sales centers and service Swagelok.

### Safe Product Selection

**When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.**

## Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit your Swagelok Web site or contact your authorized Swagelok representative.

Swagelok, Ferrule-Pak, Goop, Hinging-Colleting, IGC, Kenmac, Micro-Fit, Nupro, Snoop, Sno-Trik, SWAK, VCO, VCR, Ultra-Torr, Whitey—TM Swagelok Company  
Atlas—TM Asahi Glass Co. Ltd.  
AL-6XN—TM Allegheny Ludlum Corporation  
AutoCAD—TM Autodesk, Inc.  
CSA—TM Canadian Standards Association  
DeviceNet—TM ODVA  
Kalrez, Krytox—TM DuPont  
Elgiloy—TM Elgiloy Specialty Metals  
FM—TM FM Global  
Grafoil—TM GrafTech International Holdings, Inc.  
MAC—TM MAC Valves Inc.  
Microsoft, Windows—TM Microsoft Corp.  
NACE—TM NACE International  
picofast—TM HansTurck KG  
Pillar—TM Nippon Pillar Packing Company, Ltd.  
15-7 PH, 17-7 PH—TM AK Steel Corp.  
Sandvik—TM SandvikAB  
Silconert—TM Silcotek Corporation  
Simriz—TM Freudenberg-NOK  
SolidWorks—TM SolidWorks Corporation