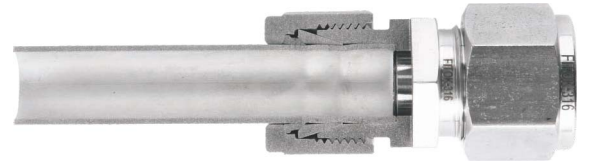


## Features

- ⦿ Sizes range from 1/16" to 2" and 2 mm to 50 mm.
- ⦿ Diverse materials and configurations are available.
- ⦿ Precision machined components ensure perfect deformation of the ferrules and tubing.
- ⦿ Hardened threads with smooth surface finish avoid galling and help to extend the fitting service life.
- ⦿ Female nut threads are silver-plated to reduce the friction against the body threads.
- ⦿ Radius junction design with elbows provides smooth flow path.
- ⦿ Every fitting is stamped with size, material, and heat code.
- ⦿ Fittings are easy to disconnect and retighten.



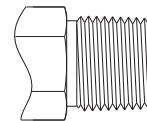
## Technical Data

### ⦿ Thread Ends

#### NPT Threads (NPT)

- ⦿ Comply with ASME B1.20.1, SAE AS71051.

Thread Data						
Thread Size	Thread/in.	Dia. at Reference Plane (mm)			Handtight Engagement	
		Max. Dia.	Pitch Dia.	Min. Dia.	(mm)	Threads
1/16	27	7.894	7.142	6.389	4.064	4.32
1/8		10.242	9.489	8.737	4.102	4.36
1/4	18	13.616	12.487	11.358	5.785	4.10
3/8		17.055	15.926	14.797	6.096	4.32
1/2	14	21.224	19.772	18.321	8.128	4.48
3/4		26.569	25.117	23.666	8.618	4.75
1	11.5	33.228	31.461	29.694	10.160	4.60
1 1/4		41.985	40.218	38.451	10.668	4.83
1 1/2		48.054	46.287	44.520	10.668	4.83
2		60.092	58.325	56.558	11.065	5.01



- 60° thread angle
- Pitch measured in inch
- Truncation of root and crest are parallel
- Taper 1:16
- Type of sealing: thread sealant

Working Pressures of NPT Thread Ends								
Thread Size	316 Stainless Steel and Carbon Steel				Brass			
	Male		Female		Male		Female	
	psig	bar	psig	bar	psig	bar	psig	bar
1/16	11000	757	6700	460	5500	378	3300	227
1/8	10000	690	6500	447	5000	344	3200	220
1/4	8000	551	6600	454	4000	275	3300	227
3/8	7800	537	5300	365	3900	268	2600	179
1/2	7700	530	4900	337	3800	261	2400	165
3/4	7300	502	4600	316	3600	248	2300	158
1	5300	365	4400	303	2600	179	2200	151
1 1/4	6000	410	5000	344	3000	200	2500	172
1 1/2	5000	344	4600	317	2500	172	2300	158
2	3900	268	3900	268	1900	130	1900	130

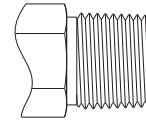
Working pressure is based on ANSI/ASME B31.3 at ambient temperature.

## 2 6 Series Tube Fittings

### ISO Tapered Threads (R, R1, R2, RC, RT, PT, BSPT, ZG)

© Comply with ISO 7-1, EN 10226-1, BS 21, DIN 2999, JIS B0203.

Thread Data						
Thread Size	Thread/ in.	Dia. at Reference Plane (mm)			Gauge Length	
		Max. Dia.	Pitch Dia.	Min. Dia.	(mm)	Threads
1/16	28	7.723	7.142	6.561	4.0	4.4
1/8		9.728	9.147	8.566	4.0	4.4
1/4	19	13.157	12.301	11.445	6.0	4.5
3/8		16.662	15.806	14.950	6.4	4.8
1/2	14	20.955	19.793	18.631	8.2	4.5
3/4		26.441	25.279	24.117	9.5	5.2
1	11	33.249	31.770	30.291	10.4	4.5
1 1/4		41.910	40.431	38.952	12.7	5.5
1 1/2		47.803	46.324	44.845	12.7	5.5
2		59.614	58.135	56.656	15.9	6.9



- 55° thread angle
- Pitch measured in inch
- Truncation of root and crest are round
- Taper 1:16
- Type of sealing: thread sealant

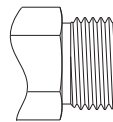
### Working Pressures of ISO Tapered Thread Ends

The working pressures of ISO tapered thread ends are the same as that of the NPT thread ends.

### ISO Parallel Threads (G, RP, PF, BSPP)

Comply with ISO 228-1, DIN ISO 228-1, JIS B0202, BS 2779.

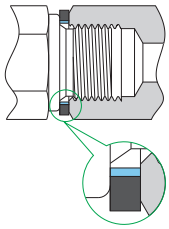
Thread Data				
Thread Size	Thread/ in.	Basic Dia. (mm)		
		Max. Dia.	Pitch Dia.	Min. Dia.
1/16	28	7.723	7.142	6.561
1/8		9.728	9.147	8.566
1/4	19	13.157	12.301	11.445
3/8		16.662	15.806	14.950
1/2	14	20.955	19.793	18.631
5/8		22.911	21.749	20.587
3/4		26.441	25.279	24.117
7/8		30.201	29.039	27.877
1	11	33.249	31.770	30.291
1 1/8		37.897	36.418	34.939
1 1/4		41.910	40.431	38.952
1 1/2		47.803	46.324	44.845
1 3/4		53.746	52.267	50.788
2		59.614	58.135	56.656



- 55° thread angle
- Pitch measured in inch
- Truncation of root and crest are round

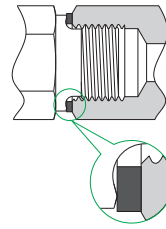
## Types of Sealing for ISO Parallel Threads

## 1. RS Stud End, RS Gasket and RP Port



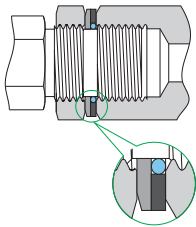
- RS stud end complies with DIN 3852-2 type A
- For RS gasket, see page A-82
- RP port complies with DIN 3852-2 type X

## 2. RP Stud End, RP Gasket and RP Port



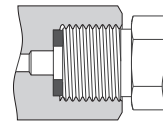
- RP studs end complies with DIN 3852-2 type B
- For RP gasket, see page A-83
- RP port complies with DIN 3852-2 type X

## 3. PP Stud End and RP Port



- RP port complies with DIN 3852-2 type X

## 4. RG Port, RG Gasket and BP Stud End



- RG port complies with EN 837-1/3
- For RG gasket, see page A-83

## Working Pressures of Adjustable ISO Parallel Thread Ends(PP)

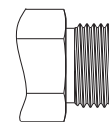
Thread Size	316 Stainless Steel and Carbon Steel	
	psig	bar
1/8	4568	315
1/4		
3/8		
1/2	2320	160
3/4		
1		

## SAE/MS Straight Threads (UN, UNJ)

Comply with ASME B1.1, ISO R725.

## Thread Data

Thread Size	Thread/ in.	Basic Dia. (mm)		
		Max. Dia.	Pitch Dia.	Min. Dia.
5/16-24	24	7.938	7.249	6.792
3/8-24	24	9.525	8.837	8.380
7/16-20	20	11.113	10.287	9.738
1/2-20	20	12.700	11.875	11.326
9/16-18	18	14.288	13.325	12.761
3/4-16	16	19.050	18.019	17.330
7/8-14	14	22.225	21.046	20.262
1 1/16-12	12	26.988	25.613	24.719
1 3/16-12	12	30.163	28.788	27.871
1 5/16-12	12	33.338	31.963	31.046
1 5/8-12	12	41.275	39.901	38.984
1 7/8-12	12	47.625	46.251	45.324
2 1/2-12	12	63.500	62.126	61.209

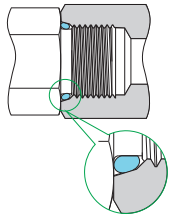


- 60° thread angle
- Pitch measured in inch
- Truncation of root and crest are parallel

## 4 6 Series Tube Fittings

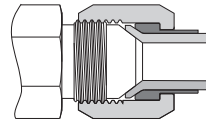
### Types of Sealing for SAE/MS Threads

#### 1. ST Stud End and ISO 11926-1 Port



- ST stud end complies with ISO 11926-3
- For O-ring, see page A-84

#### 2. 37° Flare (AN) Stud and Flared Tubing



- The type of sealing complies with SAE J514

### Working Pressures of SAE/MS Thread Ends

Thread Size	316 Stainless Steel and Carbon Steel			
	Non-adjustable		Adjustable	
	psig	bar	psig	bar
5/16-24	4568	315	4568	315
3/8-24				
7/16-20				
1/2-20			3626	250
9/16-18				
3/4-16	3626	250	2900	200
7/8-14				
1 1/16-12				
1 3/16-12	2900	200	2320	160
1 5/16-12				
1 5/8-12	2320	160	1813	125
1 7/8-12				
2 1/2-12	1813	125	1450	100

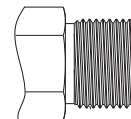
Working pressures are based on ISO 11926-3 at ambient temperature.

### Metric Threads (M)

Comply with ISO 261.

#### Thread Data

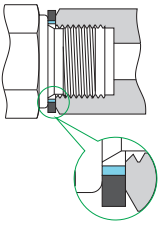
Thread Size	Pitch (mm)	Basic Dia. (mm)		
		Max. Dia.	Pitch Dia.	Min. Dia.
M6 x 1	1	6.000	5.350	4.917
M8 x 1		8.000	7.350	6.917
M10 x 1		10.000	9.350	8.917
M12 x 1.5	1.5	12.000	11.026	10.376
M14 x 1.5		14.000	13.026	12.376
M16 x 1.5		16.000	15.026	14.376
M18 x 1.5		18.000	17.026	16.376
M20 x 1.5		20.000	19.026	18.376
M22 x 1.5		22.000	21.026	20.376
M24 x 1.5		24.000	23.026	22.376
M27 x 2	2	27.000	25.701	24.835
M30 x 2		30.000	28.701	27.835
M33 x 2		33.000	31.701	30.835
M36 x 2		36.000	34.701	33.835
M39 x 2		39.000	37.701	36.835
M42 x 2		42.000	40.701	39.835
M45 x 2		45.000	43.701	42.835
M48 x 2		48.000	46.701	45.835



- 60° thread angle
- Pitch measured in mm
- Truncation of root and crest are parallel

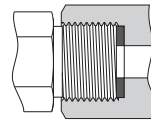
## Types of Sealing for Metric Threads

### 1. MRS Stud End, RS-M gasket and MS Port



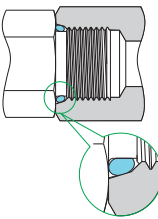
- MRS stud end complies with DIN 3852-1 type A
- For RS-M gasket, see page A-82

### 2. MS Stud End, RG-M gasket and MS Port



- For RG-M gasket, see page A-83

### 3. MST Stud End and ISO 6149-1 Port



- MST stud end complies with ISO 6149-3
- For O-ring, see page A-84

### Working Pressures for MST Stud Ends

Thread Size	Stainless Steel and Carbon Steel			
	Non-adjustable		Adjustable	
	psig	bar	psig	bar
M8 x 1	5800	400	4568	315
M10 x 1				
M12 x 1.5				
M14 x 1.5				
M16 x 1.5	4568	315	3626	250
M18 x 1.5				
M20 x 1.5				
M22 x 1.5				
M27 x 2	2900	200	2320	160
M30 x 2				
M33 x 2				
M42 x 2				
M48 x 2				
M60 x 2	2320	160	1450	100

Working pressures are based on ISO 6149-3 at ambient temperature.

## Working Temperatures

### Thread Ends

The working temperatures of the thread ends may be limited by the teflon tape or thread sealant or, when applicable, the gaskets or O-rings as follows:

Component	Material	Minimum Temperature	Maximum Temperature
RS gasket	Buna N	-13° F (-25° C)	230° F (110° C)
	Fluorocarbon FKM	5° F (-15° C)	400° F (204° C)
RP/RG Gasket	Copper	-325° F (-198° C)	400° F (204° C)
	Stainless Steel	-425° F (-254° C)	1000° F (538° C)
RG Gasket	PTFE	-65° F (-54° C)	450° F (232° C)
	Vulcanized Fibre	-76° F (-60° C)	221° F (105° C)
O-ring	Buna N	-22° F (-30° C)	230° F (110° C)
	Fluorocarbon FKM	-4° F (-20° C)	400° F (204° C)