

Table of Contents

37° JIC Standard Fitting	SH-D series	5
30° JIS Standard Fitting	SH-C(D) series	10
O-Ring Face Sealed Fitting(ORFS)	SH-S series	14
Special spec. & Customer demand	SH-H series	17
Engineering reference		18
ORFS Groove Style		20
Part No. Identification		20

Application of SamHo Fitting

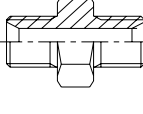
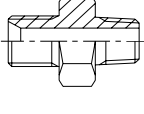
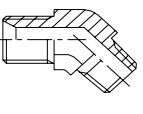
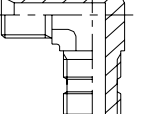
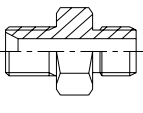
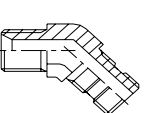
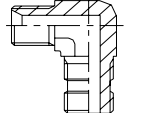
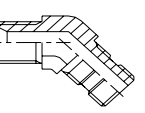
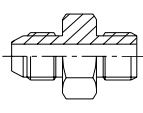
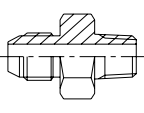
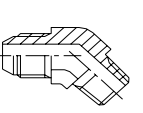
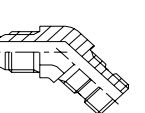
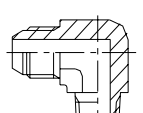
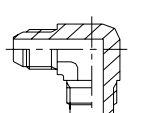
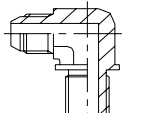
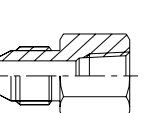
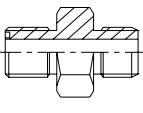
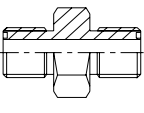
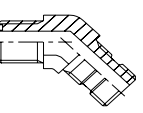
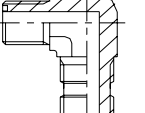
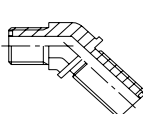
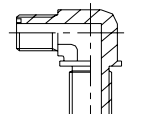
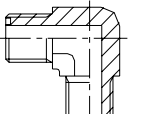
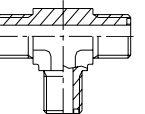
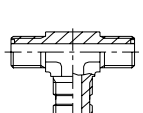
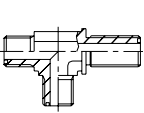
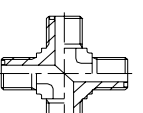
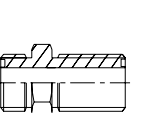
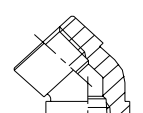
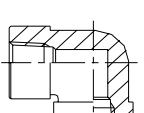
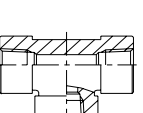
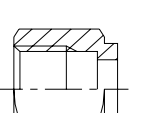


These fittings are made for up to 6,000 psi of working pressure with ANSI 1020 material. The forged fittings are high quality product with a high standard of finish and cleanliness.

Index

<p>37° JIC Standard Fitting</p> <p>SH-D series</p>	DJO1 5	DJN1 5	DJN4 5	DJO9 5
	DJ5 6	DJO4 6	DJN9F 6	DJ24 6
	DJN9 7	DJ9 7	DJ8 7	DJ29 7
	DJTO 8	DJNFT 8	DJ3T 8	DJTN 8
DJT2 9	DJT 9	DX 9	DJ2T 9	

Index

<p>30° JIS Standard Fitting</p> <p>SH-C series</p> <p>SH-D series</p>	CC1	10	CB1	10	CB4	10	CJO9	10
								
	CPO1	11	CPO4	11	CPO9	11	CJO4	11
								
	DPO1	12	DPB1	12	DPB4	12	DPO4	12
								
	DPB9	13	DPO9	13	DP29	13	DPBF1	13
								
<p>O-Ring Face Sealed Fitting(ORFS)</p> <p>SH-S Series</p>	SO1	14	SS1	14	SO4	14	SO9	14
								
	SS24	15	SS29	15	SS9	15	SST	15
								
	SSTO	16	SS2T	16	SX	16	SS21	16
								
<p>Special spec. & Customer demand</p> <p>SH-H series</p>	HFB4	17	HFB9	17	HFBT	17	HSN	17
								

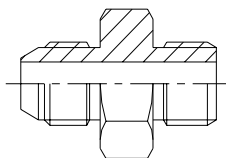
37° JIC Standard Fitting

SH-D series

Drawing

DJO1

Straight Thread O-ring / Connector

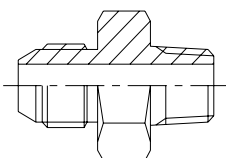


Part No.	UNF ₁	UNF ₂	Length	Hex
DJO1-0505	5/16-24	5/16-24	1.06	7/16
0707	7/16-20	7/16-20	1.23	9/16
0909	9/16-18	9/16-18	1.30	11/16
1212	3/4-16	3/4-16	1.48	7/8
1414	7/8-14	7/8-14	1.70	1
1717	1 1/16-12	1 1/16-12	1.97	1 1/4
2121	1 5/16-12	1 5/16-12	2.04	1 1/2
2626	1 5/8-12	1 5/8-12	2.17	2
3030	1 7/8-12	1 7/8-12	2.37	2 1/4
4040	2 1/2-12	2 1/2-12	2.78	2 7/8

Drawing

DJN1

Male Connector

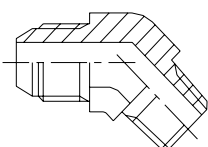


Part No.	UNF	NPTF	Length	Hex
DJN1-0502	5/16-24	1/8-27	1.11	7/16
0704	7/16-20	1/4-18	1.42	9/16
0906	9/16-18	3/8-18	1.46	3/4
1208	3/4-16	1/2-14	1.78	15/16
1412	7/8-14	3/4-14	1.95	1 1/8
1712	1 1/16-12	3/4-14	2.06	1 1/8
2116	1 5/16-12	1-11 1/2	2.30	1 3/8
2620	1 5/8-12	1 1/4-11 1/2	2.45	1 11/16
3024	1 7/8-12	1 1/2-11 1/2	2.68	2
4032	2 1/2-12	2-11 1/2	3.11	2 5/8

Drawing

DJN4

SAE 37. to NPTF / 45. Elbow

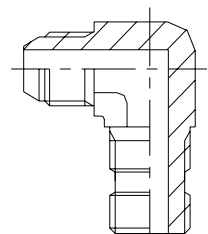


Part No.	UNF	NPTF	Length ₁	Length ₂	A/F
DJN4-0502	5/16-24	1/8-27	0.69	0.52	0.438
0704	7/16-20	1/4-18	0.83	0.86	0.562
0906	9/16-18	3/8-18	0.94	0.95	0.750
1208	3/4-16	1/2-14	1.13	1.17	0.875
1712	1 1/16-12	3/4-14	1.28	1.20	1.062
2116	1 5/16-12	1-11 1/2	1.47	1.48	1.312
2620	1 5/8-12	1 1/4-11 1/2	1.59	1.67	1.625
3024	1 7/8-12	1 1/2-11 1/2	1.78	1.77	1.875
4032	2 1/2-12	2-11 1/2	2.22	2.11	2.500

Drawing

DJO9

Straight Thread O-ring / 90. Elbow

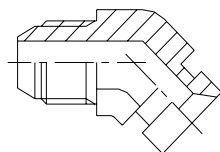


Part No.	UNF ₁	UNF ₂	Length ₁	Length ₂	A/F
DJO9-0505	5/16-24	5/16-24	0.77	0.94	0.438
0707	7/16-20	7/16-20	0.89	1.03	0.438
0909	9/16-18	9/16-18	1.06	1.25	0.562
1212	3/4-16	3/4-16	1.25	1.45	0.750
1414	7/8-14	7/8-14	1.45	1.70	0.875
1717	1 1/16-12	1 1/16-12	1.66	1.94	1.062
2121	1 5/16-12	1 5/16-12	1.81	2.05	1.312
2626	1 5/8-12	1 5/8-12	2.06	2.25	1.625
3030	1 7/8-12	1 7/8-12	2.33	2.39	1.875
4040	2 1/2-12	2 1/2-12	3.06	2.89	2.500

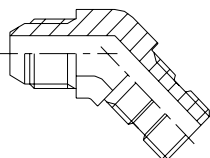
37° JIC Standard Fitting

SH-D series

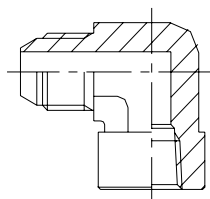
Drawing	DJ5	45° Elbow / Swivel nut			
Part No.	UNF	Length ₁	(Length ₂)	A/F	
DJ5-0505	5/16-24	0.69	0.94	0.438	
0707	7/16-20	0.72	0.94	0.438	
0909	9/16-18	0.83	1.12	0.562	
1212	3/4-16	0.98	1.28	0.750	
1414	7/8-14	1.11	1.44	0.875	
1717	1 1/16-12	1.28	1.50	1.062	
2121	1 5/16-12	1.47	1.75	1.312	
2626	1 5/8-12	1.59	2.03	1.625	
3030	1 7/8-12	1.78	2.25	1.875	
4040	2 1/2-12	2.22	2.91	2.500	



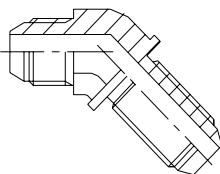
Drawing	DJO4	Straight Thread O-ring / 45° Elbow			
Part No.	UNF ₁	UNF ₂	Length ₁	Length ₂	A/F
DJO4-0707	7/16-20	7/16-20	0.72	1.05	0.438
0909	9/16-18	9/16-18	0.83	1.14	0.562
1212	3/4-16	3/4-16	0.98	1.30	0.750
1414	7/8-14	7/8-14	1.11	1.52	0.875
1714	1 1/16-12	7/8-14	1.28	1.73	1.062
2121	1 5/16-12	1 5/16-12	1.47	1.86	1.312
2626	1 5/8-12	1 5/8-12	1.59	1.91	1.625
3030	1 7/8-12	1 7/8-12	1.78	1.91	1.875
4040	2 1/2-12	2 1/2-12	2.22	1.86	2.500



Drawing	DJN9F	SAE 37° to female NPTF / 90° Elbow			
Part No.	UNF	NPTF	Length ₁	Length ₂	A/F
DJN9F-0502	5/16-24	1/8-27	1.00	0.66	0.562
0702	7/16-20	1/8-27	1.08	0.66	0.562
0904	9/16-18	1/4-18	1.23	0.88	0.750
1206	3/4-16	3/8-18	1.42	1.02	0.875
1712	1 1/16-12	3/4-14	1.89	1.36	1.312
2116	1 5/16-12	1-11 1/2	2.17	1.62	1.625
2620	1 5/8-12	1 1/4-11 1/2	2.33	1.70	1.875
3024	1 7/8-12	1 1/2-11 1/2	2.89	2.08	2.562
4032	2 1/2-12	2-11 1/2	3.30	2.39	2.812

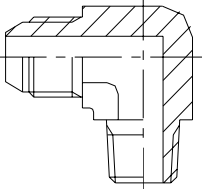


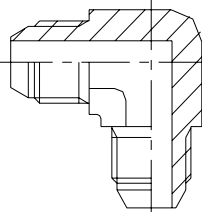
Drawing	DJ24	Bulkhead Union / 45° Elbow			
Part No.	UNF	Length ₁	(Length ₂)	A/F	
DJ24-0505	5/16-24	0.69	1.42	0.438	
0707	7/16-20	0.72	1.53	0.438	
0909	9/16-18	0.83	1.67	0.562	
1212	3/4-16	0.98	1.94	0.750	
1414	7/8-14	1.11	2.17	0.875	
1717	1 1/16-12	1.28	2.44	1.062	
2121	1 5/16-12	1.47	2.56	1.312	
2626	1 5/8-12	1.59	2.65	1.625	
3030	1 7/8-12	1.78	2.67	1.875	
4040	2 1/2-12	2.22	2.91	2.500	

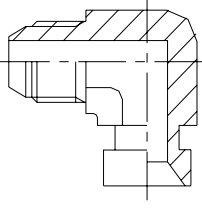


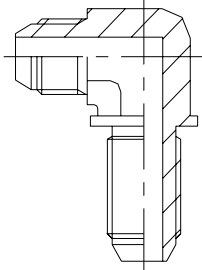
37° JIC Standard Fitting

SH-D series

Drawing	DJN9	SAE 37° to NPTF / 90° Elbow				
	Part No.	UNF	NPTF	Length ₁	Length ₂	A/F
	DJN9-0704	7/16-20	1/4-18	1.05	1.09	0.562
	0906	9/16-18	3/8-18	1.14	1.22	0.750
	1208	3/4-16	1/2-14	1.32	1.47	0.875
	1408	7/8-14	1/2-14	1.45	1.47	0.875
	1712	1 1/16-12	3/4-14	1.66	1.59	1.062
	2116	1 5/16-12	1-11 1/2	1.81	1.97	1.312
	2620	1 5/8-12	1 1/4-11 1/2	2.06	2.38	1.625
	3024	1 7/8-12	1 1/2-11 1/2	2.33	2.64	1.875
	4032	2 1/2-12	2-11 1/2	3.06	3.00	2.500

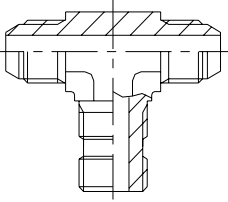
Drawing	DJ9	Union 90° Elbow			
	Part No.	UNF	Length	A/F	
	DJ9-0505	5/16-24	0.77	0.438	
	0707	7/16-20	0.89	0.438	
	0909	9/16-18	1.06	0.562	
	1212	3/4-16	1.25	0.750	
	1414	7/8-14	1.45	0.875	
	1717	1 1/16-12	1.66	1.062	
	2121	1 5/16-12	1.81	1.312	
	2626	1 5/8-12	2.06	1.625	
	3030	1 7/8-12	2.33	1.875	
	4040	2 1/2-12	3.06	2.500	

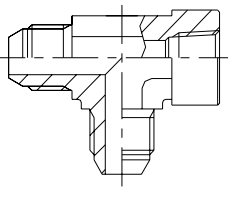
Drawing	DJ8	90° Elbow / Swivel nut			
	Part No.	UNF	Length ₁	(Length ₂)	A/F
	DJ8-0505	5/16-24	0.77	0.97	0.438
	0707	7/16-20	0.89	1.00	0.438
	0909	9/16-18	1.06	1.25	0.562
	1212	3/4-16	1.25	1.38	0.750
	1414	7/8-14	1.45	1.62	0.875
	1717	1 1/16-12	1.66	1.75	1.062
	2121	1 5/16-12	1.81	2.00	1.312
	2626	1 5/8-12	2.06	2.31	1.625
	3030	1 7/8-12	2.33	2.59	1.875
	4040	2 1/2-12	3.06	3.38	2.500

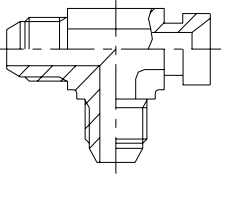
Drawing	DJ29	Bulkhead Union / 90° Elbow			
	Part No.	UNF	Length ₁	(Length ₂)	A/F
	DJ29-0505	5/16-24	0.84	1.50	0.438
	0707	7/16-20	0.97	1.59	0.438
	0909	9/16-18	1.09	1.81	0.562
	1212	3/4-16	1.36	2.11	0.750
	1414	7/8-14	1.56	2.39	0.875
	1717	1 1/16-12	1.78	2.67	1.062
	2121	1 5/16-12	1.94	2.80	1.312
	2626	1 5/8-12	2.17	3.12	1.625
	3030	1 7/8-12	2.34	3.42	1.875
	4040	2 1/2-12	2.89	4.11	2.500

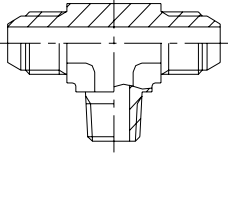
37° JIC Standard Fitting

SH-D series

Drawing	DJTO	Straight Thread O-ring / Branch Tee				
	Part No.	UNF ₁	UNF ₂	Length ₁	Length ₂	A/F
	DJTO-070707	7/16-20	7/16-20	0.89	1.03	0.438
	090909	9/16-18	9/16-18	1.06	1.25	0.562
	121212	3/4-16	3/4-16	1.25	1.45	0.750
	141414	7/8-14	7/8-14	1.45	1.70	0.875
	171717	1 1/16-12	1 1/16-12	1.66	1.94	1.062
	212121	1 5/16-12	1 5/16-12	1.81	2.05	1.312
	262626	1 5/8-12	1 5/8-12	2.06	2.25	1.625
	303030	1 7/8-12	1 7/8-12	2.33	2.39	1.875
	404040	2 1/2-12	2 1/2-12	3.06	2.89	2.500

Drawing	DJNFT	SAE 37. to female NPTF / Female Run Tee				
	Part No.	UNF	NPTF	Length ₁	Length ₂	A/F
	DJNFT-070207	7/16-20	1/8-27	1.08	0.66	0.562
	090409	9/16-18	1/4-18	1.23	0.88	0.750
	120612	3/4-16	3/8-18	1.42	1.02	0.875
	140814	7/8-14	1/2-14	1.64	1.23	1.062
	171217	1 1/16-12	3/4-14	1.89	1.36	1.312
	211621	1 5/16-12	1-11 1/2	2.17	1.62	1.625
	262026	1 5/8-12	1 1/4-11 1/2	2.33	1.70	1.875
	302430	1 7/8-12	1 1/2-11 1/2	2.89	2.08	2.562
	403240	2 1/2-12	2-11 1/2	3.30	2.39	2.812

Drawing	DJ3T	Run Tee / Swivel nut				
	Part No.	UNF		Length ₁	(Length ₂)	A/F
	DJ3T-0707	7/16-20		0.89	1.00	0.438
	0909	9/16-18		1.06	1.25	0.562
	1212	3/4-16		1.25	1.38	0.750
	1414	7/8-14		1.45	1.62	0.875
	1717	1 1/16-12		1.66	1.75	1.062
	2121	1 5/16-12		1.81	2.00	1.312
	2626	1 5/8-12		2.06	2.31	1.625
	3030	1 7/8-12		2.33	2.59	1.875
	4040	2 1/2-12		3.06	3.38	2.500

Drawing	DJTN	SAE 37. to NPTF / Branch Tee				
	Part No.	UNF	NPTF	Length ₁	Length ₂	A/F
	DJTN-070702	7/16-20	1/8-27	0.89	0.78	0.438
	090904	9/16-18	1/4-18	1.06	1.09	0.562
	121206	3/4-16	3/8-18	1.25	1.22	0.750
	141408	7/8-14	1/2-14	1.45	1.47	0.875
	171712	1 1/16-12	3/4-14	1.66	1.59	1.062
	212116	1 5/16-12	1-11 1/2	1.81	1.97	1.312
	262620	1 5/8-12	1 1/4-11 1/2	2.06	2.38	1.625
	303024	1 7/8-12	1 1/2-11 1/2	2.33	2.64	1.875
	404032	2 1/2-12	2-11 1/2	3.06	3.00	2.500

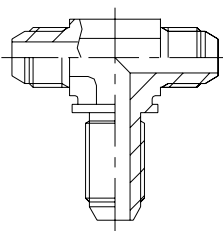
37° JIC Standard Fitting

SH-D series

Drawing

DJT2

Bulkhead / Branch Tee

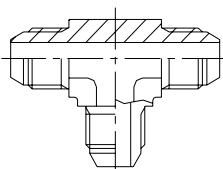


Part No.	UNF	Length ₁	(Length ₂)	A/F
DJT2-070707	7/16-20	0.97	1.59	0.438
090909	9/16-18	1.09	1.81	0.562
121212	3/4-16	1.36	2.11	0.750
141414	7/8-14	1.56	2.39	0.875
171717	1 1/16-12	1.78	2.67	1.062
212121	1 5/16-12	1.94	2.80	1.312
262626	1 5/8-12	2.17	3.12	1.625
303030	1 7/8-12	2.34	3.42	1.875
404040	2 1/2-12	2.89	4.11	2.500

Drawing

DJT

Union Tee

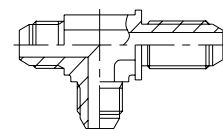


Part No.	UNF	Length	A/F
DJT-050505	5/16-24	0.77	0.438
070707	7/16-20	0.89	0.438
090909	9/16-18	1.06	0.562
121212	3/4-16	1.25	0.750
141414	7/8-14	1.45	0.875
171717	1 1/16-12	1.66	1.062
212121	1 5/16-12	1.81	1.312
262626	1 5/8-12	2.06	1.625
303030	1 7/8-12	2.33	1.875
404040	2 1/2-12	3.06	2.500

Drawing

DJ2T

Bulkhead / Run Tee

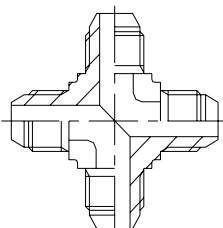


Part No.	UNF	Length ₁	(Length ₂)	A/F
DJ2T-070707	7/16-20	0.97	1.59	0.438
090909	9/16-18	1.09	1.81	0.562
121212	3/4-16	1.36	2.11	0.750
141414	7/8-14	1.56	2.39	0.875
171717	1 1/16-12	1.78	2.67	1.062
212121	1 5/16-12	1.94	2.80	1.312
262626	1 5/8-12	2.17	3.12	1.625
303030	1 7/8-12	2.34	3.42	1.875
404040	2 1/2-12	2.89	4.11	2.500

Drawing

DX

Union Cross



Part No.	UNF	Length	A/F
DX-05	5/16-24	0.77	0.438
07	7/16-20	0.89	0.438
09	9/16-18	1.06	0.562
12	3/4-16	1.25	0.750
14	7/8-14	1.45	0.875
17	1 1/16-12	1.66	1.062
21	1 5/16-12	1.81	1.312
26	1 5/8-12	2.06	1.625
30	1 7/8-12	2.33	1.875
40	2 1/2-12	3.06	2.500

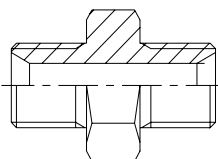
30° JIS Standard Fitting

SH-C series

Drawing

CC1

Union Connector / 30° Inverted

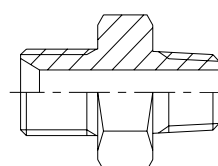


Part No.	BSPP	Length(mm)	Hex(mm)
CC1-0404	1/4	34	19
0606	3/8	38	22
0808	1/2	46	27
1212	3/4	52	36
1616	1	58	41
2020	1 1/4	64	46
2424	1 1/2	65	50

Drawing

CB1

Connector / 30° Inverted

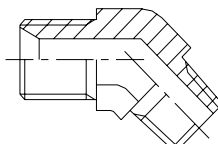


Part No.	BSPP	BSPT	Length(mm)	Hex(mm)
CB1-0202	1/8	1/8	30	14
0404	1/4	1/4	35	19
0606	3/8	3/8	40	22
0808	1/2	1/2	47	27
0812	1/2	3/4	51	36
1212	3/4	3/4	53	36
1616	1	1	58	41
2020	1 1/4	1 1/4	66	46
2424	1 1/2	1 1/2	67	50

Drawing

CB4

45° Elbow / 30° Inverted

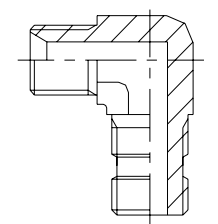


Part No.	BSPP	BSPT	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
CB4-0202	1/2	1/2	18	18	14
0404	1/4	1/4	19	20	17
0606	3/8	3/8	23	24	19
0808	1/2	1/2	26	27	24
1212	3/4	3/4	32	32	30
1616	1	1	35	34	36
2020	1 1/4	1 1/4	40	40	46
2424	1 1/2	1 1/2	41	41	50

Drawing

CJO9

Straight Thread O-ring 90° Elbow / 30° Inverted



Part No.	BSPP	UNF	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
CJO9-0409	1/4	9/16-18	23	32	14
0612	3/8	3/4-16	29	37	19
0814	1/2	7/8-14	34	43	22
1217	3/4	1 1/16-12	36	49	27
1621	1	1 5/16-12	40	52	33
2026	1 1/4	1 5/8-12	48	57	46

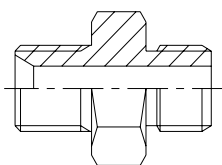
30° JIS Standard Fitting

SH-C series

Drawing

CPO1

Union Connector / 30° Inverted

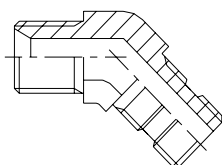


Part No.	BSPP ₁	BSPP ₂	Length(mm)	Hex(mm)
CPO1-0404	1/4	1/4	33	19
0606	3/8	3/8	37	22
0808	1/2	1/2	43	27
0812	1/2	3/4	44	32
1212	3/4	3/4	49	32
1616	1	1	56	41
2020	1 1/4	1 1/4	60	50
2424	1 1/2	1 1/2	60	60

Drawing

CPO4

45° Elbow / 30° Inverted

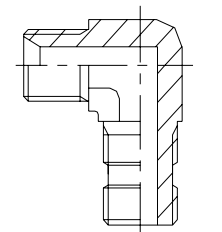


Part No.	BSPP ₁	BSPP ₂	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
CPO4-0404	1/4	1/4	19	29	14
0606	3/8	3/8	24	33	19
0808	1/2	1/2	28	39	24
1212	3/4	3/4	32	44	27
1616	1	1	37	47	33
2020	1 1/4	1 1/4	40	49	46

Drawing

CPO9

90° Elbow / 30° Inverted

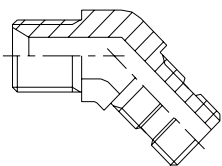


Part No.	BSPP ₁	BSPP ₂	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
CPO9-0404	1/4	1/4	23	32	14
0606	3/8	3/8	29	37	19
0808	1/2	1/2	34	43	22
1212	3/4	3/4	36	49	27
1616	1	1	40	52	33
2020	1 1/4	1 1/4	48	65	46

Drawing

CJO4

45° Elbow / 30° Inverted



Part No.	BSPP	UNF	Length ₁	Length ₂	A/F(mm)
CJO4-0409	1/8	9/16-18	19	29	14
0612	3/8	3/4-16	24	33	19
0814	1/2	7/8-14	28	38.6	22
1217	3/4	1 1/16-12	32	43.9	27
1621	1	1 5/16-12	37	47.2	33
2026	1 1/4	1 5/8-12	40	49	46

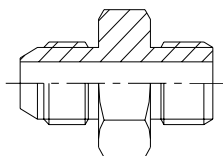
30° JIS Standard Fitting

SH-D series

Drawing

DPO1

Male Connector / BSP O-ring

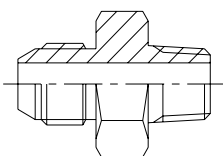


Part No.	BSPP ₁	BSPP ₂	Length(mm)	Hex(mm)
DPO1-0404	1/4	1/4	33	19
0606	3/8	3/8	35	22
0808	1/2	1/2	44	27
0812	1/2	3/4	45	32
1212	3/4	3/4	47	32
1616	1	1	55	46
2020	1 1/4	1 1/4	62	50
2424	1 1/2	1 1/2	62	60

Drawing

DPB1

Male Connector

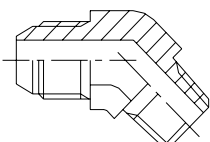


Part No.	BSPP	BSPT	Length(mm)	Hex(mm)
DPB1-0202	1/8	1/8	30	14
0404	1/4	1/4	35	19
0606	3/8	3/8	40	22
0808	1/2	1/2	47	27
0812	1/2	3/4	51	36
1212	3/4	3/4	53	36
1616	1	1	58	41
2020	1 1/4	1 1/4	66	46
2424	1 1/2	1 1/2	67	50

Drawing

DPB4

45° Elbow / JIS 30° to BSPT

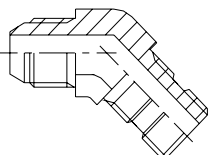


Part No.	BSPP	BSPT	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
DPB4-0202	1/8	1/8	18	18	14
0404	1/4	1/4	22	20	17
0606	3/8	3/8	24	24	19
0808	1/2	1/2	27	27	24
0812	1/2	3/4	27	32	30
1212	3/4	3/4	32	32	30
1616	1	1	35	34	36
2020	1 1/4	1 1/4	42	40	46
2424	1 1/2	1 1/2	43	41	50

Drawing

DPO4

45° Elbow / JIS 30° to BSP O-ring



Part No.	BSPP ₁	BSPP ₂	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
CPO4-0404	1/4	1/4	21	29	14
0606	3/8	3/8	25	33	19
0808	1/2	1/2	28	39	22
0812	1/2	3/4	33	44	27
1212	3/4	3/4	33	44	27
1616	1	1	37	47	33
2020	1 1/4	1 1/4	42	49	46

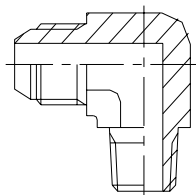
30° JIS Standard Fitting

SH-D series

Drawing

DPB9

90° Elbow / JIS 30° to BSPT

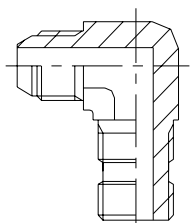


Part No.	BSPP	BSPT	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
DPB9-0202	1/8	1/8	21.5	22	14
0404	1/4	1/4	24	26.5	17
0606	3/8	3/8	29	30	19
0808	1/2	1/2	32.5	38	24
0812	1/2	3/4	36	43	30
1212	3/4	3/4	36	43	30
1616	1	1	42	46	36
2020	1 1/4	1 1/4	52	53	50

Drawing

DPO9

90° Elbow / JIS 30° to BSPP O-ring

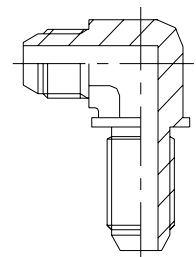


Part No.	BSPP ₁	BSPP ₂	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
DPO9-0404	1/4	1/4	27	32	14
0606	3/8	3/8	32	37	19
0808	1/2	1/2	37	43	22
0812	1/2	3/4	42	49	27
1212	3/4	3/4	42	49	27
1616	1	1	46	52	33
2020	1 1/4	1 1/4	52	65	46

Drawing

DP29

Bulkhead Union 90° Elbow / JIS 30° Flare(PF)

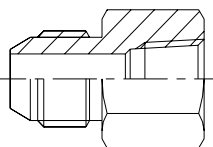


Part No.	BSPP	Length ₁ (mm)	Length ₂ (mm)	A/F(mm)
DP29-0404	1/4	27		14
0606	3/8	32		19
0808	1/2	37		22
0812	1/2	42		27
1212	3/4	42		27
1616	1	46		33
2020	1 1/4	52		46

Drawing

DPBF1

Connector / JIS 30° Flare to Tapered



Part No.	BSPP	(BSPT)	Length(mm)	Hex(mm)
DPBF1-0202	1/8	1/8	27	14
0404	1/4	1/4	29	19
0606	3/8	3/8	35	22
0808	1/2	1/2	41	27
1212	3/4	3/4	46	36
1616	1	1	51	41

O-Ring Face Sealed Fitting(ORFS)

SH-S series

Drawing	SO1	Straight Thread O-ring Connector / ORFS			
	Part No.	UNF ₁	UNF ₂	Length	Hex
	SO1-0907	9/16-18	7/16-20	1.13	0.625
	1109	11/16-16	9/16-18	1.26	0.750
	1312	13/16-16	3/4-16	1.44	0.875
	1614	1-14	7/8-14	1.70	1.062
	1917	1 3/16-12	1 1/16-12	1.91	1.250
	2321	1 7/16-12	1 5/16-12	1.98	1.500
	2726	1 11/16-12	1 5/8-12	2.06	1.750
	3230	2-12	1 7/8-12	2.13	2.125

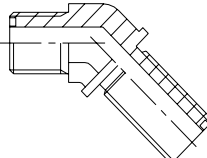
Drawing	SS1	Union Connector / ORFS		
	Part No.	UNF	Length	Hex
	SS1-0909	9/16-18	1.08	0.625
	1111	11/16-16	1.22	0.750
	1313	13/16-16	1.39	0.875
	1616	1-14	1.68	1.062
	1919	1 3/16-12	1.86	1.250
	2323	1 7/16-12	1.94	1.500
	2727	1 11/16-12	2.02	1.750
	3232	2-12	2.09	2.125

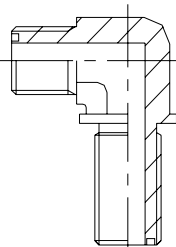
Drawing	SO4	Straight Thread O-ring 45° Elbow / ORFS				
	Part No.	UNF ₁	UNF ₂	Length ₁	Length ₂	A/F
	SO4-0907	9/16-18	7/16-20	0.63	1.18	0.562
	1109	11/16-16	9/16-18	0.74	1.30	0.750
	1312	13/16-16	3/4-16	0.80	1.43	0.750
	1614	1-14	7/8-14	0.92	1.76	1.062
	1917	1 3/16-12	1 1/16-12	1.02	1.97	1.188
	2321	1 7/16-12	1 5/16-12	1.18	2.06	1.438
	2726	1 11/16-12	1 5/8-12	1.26	2.11	1.625
	3230	2-12	1 7/8-12	1.45	2.11	1.875

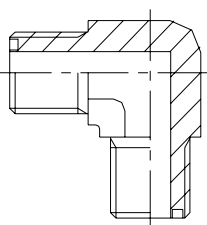
Drawing	SO9	Straight Thread O-ring 90° Elbow / ORFS				
	Part No.	UNF ₁	UNF ₂	Length ₁	Length ₂	A/F
	SO9-0907	9/16-18	7/16-20	0.85	1.29	0.562
	1109	11/16-16	9/16-18	0.98	1.45	0.750
	1312	13/16-16	3/4-16	1.10	1.60	0.750
	1614	1-14	7/8-14	1.31	1.97	1.062
	1917	1 3/16-12	1 1/16-12	1.47	2.17	1.188
	2321	1 7/16-12	1 5/16-12	1.64	2.35	1.438
	2726	1 11/16-12	1 5/8-12	1.76	2.45	1.625
	3230	2-12	1 7/8-12	1.92	2.59	1.875

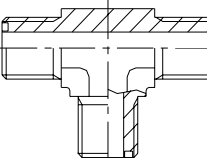
O-Ring Face Sealed Fitting(ORFS)

SH-S series

Drawing	SS24	Bulkhead Union 45. Elbow / ORFS			
	Part No.	UNF	Length ₁	Length ₂	A/F
	SS24-0909	9/16-18	0.63	1.73	0.562
	1111	11/16-16	0.74	1.91	0.750
	1313	13/16-16	0.80	2.20	0.750
	1616	1-14	0.92	2.23	1.062
	1919	1 3/16-12	1.02	2.39	1.188
	2323	1 7/16-12	1.18	2.57	1.438
	2727	1 11/16-12	1.26	2.64	1.625
	3232	2-12	1.45	2.64	1.875

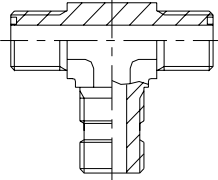
Drawing	SS29	Bulkhead Union 90. Elbow / ORFS			
	Part No.	UNF	Length ₁	Length ₂	A/F
	SS29-0909	9/16-18	0.89	1.85	0.562
	1111	11/16-16	1.02	2.05	0.750
	1313	13/16-16	1.14	2.18	0.750
	1616	1-14	1.36	2.48	1.062
	1919	1 3/16-12	1.52	2.65	1.188
	2323	1 7/16-12	1.67	2.80	1.438
	2727	1 11/16-12	1.79	2.97	1.625
	3232	2-12	1.95	3.13	1.875

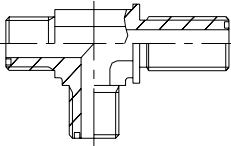
Drawing	SS9	Union 90. Elbow / ORFS		
	Part No.	UNF	Length	A/F
	SS9-0909	9/16-18	0.85	0.562
	1111	11/16-16	0.98	0.750
	1313	13/16-16	1.10	0.750
	1616	1-14	1.31	1.062
	1919	1 3/16-12	1.47	1.188
	2323	1 7/16-12	1.64	1.438
	2727	1 11/16-12	1.76	1.625
	3232	2-12	1.92	1.875

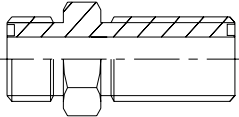
Drawing	SST	Union Tee / ORFS			
	Part No.	UNF	Length ₁	Length ₂	A/F
	SST-090909	9/16-18	0.85	1.70	0.562
	111111	11/16-16	0.98	1.96	0.750
	131313	13/16-16	1.10	2.20	0.750
	161616	1-14	1.31	2.62	1.062
	191919	1 3/16-12	1.47	2.94	1.188
	232323	1 7/16-12	1.64	3.28	1.438
	272727	1 11/16-12	1.76	3.52	1.625
	323232	2-12	1.92	3.84	1.875

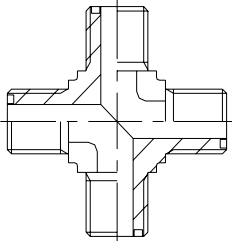
O-Ring Face Sealed Fitting(ORFS)

SH-S series

Drawing	SSTO	Straight Thread O-ring Branch Tee / ORFS				
	Part No.	UNF ₁	UNF ₂	Length ₁	Length ₂	A/F
	SSTO-090907	9/16-18	7/16-20	0.85	1.29	0.562
	111109	11/16-16	9/16-18	0.98	1.45	0.750
	131312	13/16-16	3/4-16	1.10	1.60	0.750
	161614	1-14	7/8-14	1.31	1.97	1.062
	191917	1 3/16-12	1 1/16-12	1.47	2.17	1.188
	232321	1 7/16-12	1 5/16-12	1.64	2.35	1.438
	272726	1 11/16-12	1 5/8-12	1.76	2.45	1.625
	323230	2-12	1 7/8-12	1.92	2.59	1.875

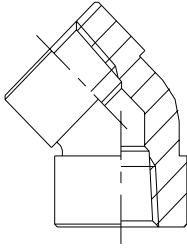
Drawing	SS2T	Bulkhead Run Tee / ORFS			
	Part No.	UNF	Length ₁	Length ₂	A/F
	SS2T-090909	9/16-18	0.89	1.85	0.562
	111111	11/16-16	1.02	2.05	0.750
	131313	13/16-16	1.14	2.18	0.750
	161616	1-14	1.36	2.48	1.062
	191919	1 3/16-12	1.52	2.65	1.188
	232323	1 7/16-12	1.67	2.80	1.438
	272727	1 11/16-12	1.79	2.97	1.625
	323232	2-12	1.95	3.13	1.875

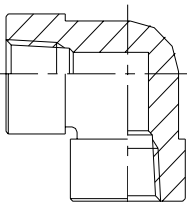
Drawing	SS21	Bulkhead Adaptor / ORFS		
	Part No.	UNF	Length	Hex
	SS21-0909	9/16-18	1.90	0.812
	1111	11/16-16	2.09	1.000
	1313	13/16-16	2.30	1.125
	1616	1-14	2.62	1.312
	1919	1 3/16-12	2.72	1.500
	2323	1 7/16-12	2.76	1.750
	2727	1 11/16-12	2.76	2.000
	3232	2-12	2.76	2.375

Drawing	SX	Union Cross / ORFS		
	Part No.	UNF	Length	A/F
	DX-09	9/16-18	0.85	0.562
	11	11/16-16	0.98	0.750
	13	13/16-16	1.10	0.750
	16	1-14	1.31	1.062
	19	1 3/16-12	1.47	1.188
	23	1 7/16-12	1.64	1.438
	27	1 11/16-12	1.76	1.625
	32	2-12	1.92	1.875

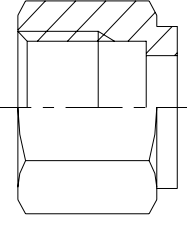
Special spec. & Customer demand

SH-H series

Drawing	HFB4	Pipe Fitting / 45° Elbow, Female		
	Part No.	BSPT	Length ₁ (mm)	O.D.(mm)
	HFB4-02	1/8	20.0	23
	04	1/4	20.0	23
	06	3/8	21.0	26
	08	1/2	24.0	33
	12	3/4	27.5	39
	16	1	30.0	47
	20	1 1/4	36.0	57
	24	1 1/2	40.0	63
	32	2	47.0	76

Drawing	HFB9	Pipe Fitting / 90° Elbow, Female		
	Part No.	BSPT	Length ₁ (mm)	O.D.(mm)
	HFB9-02	1/8	22.5	23
	04	1/4	22.5	23
	06	3/8	25.0	26
	08	1/2	29.0	33
	12	3/4	34.0	39
	16	1	38.0	47
	20	1 1/4	45.0	57
	24	1 1/2	51.0	63
	32	2	60.0	76

Drawing	HFBT	Special Branch Tee, Female		
	Part No.	BSPT	Length ₁ (mm)	O.D.(mm)
	HFBT-02	1/8	22.5	23
	04	1/4	22.5	23
	06	3/8	25.0	26
	08	1/2	29.0	33
	12	3/4	34.0	39
	16	1	38.0	47
	20	1 1/4	45.0	57
	24	1 1/2	51.0	63
	32	2	60.0	76

Drawing	HSN	Swivel Nut (for ORFS)		
	Part No.	UNF(UNS, UN)	Length	Hex
	HSN-04	9/16-18	0.580	0.687
	06	11/16-16	0.670	0.812
	08	13/16-16	0.827	0.938
	12	1-14	0.925	1.125
	16	1 3/16-12	1.024	1.375
	20	1 7/16-12	1.095	1.625
	24	1 11/16-12	1.095	1.875
	32	2-12	1.095	2.250

Engineering reference

American Standard Connection

Figure

NPSM & NPTF

Dash size	Inch size (in)	Thread size (in - tpi)	Female thread(I.D)		Male thread(O.D)	
			(mm)	(inch)	(mm)	(inch)
-2	1/8	1/8-27	8.7	0.34	10.3	0.41
-4	1/4	1/4-18	11.9	0.47	14.3	0.56
-6	3/8	3/8-18	15.1	0.59	17.5	0.69
-8	1/2	1/2-14	18.3	0.72	21.4	0.84
-12	3/4	3/4-14	23.8	0.94	27.0	1.06
-16	1	1-11 1/2	30.2	1.19	33.3	1.31
-20	1-1/4	1 1/4 1/2	38.9	1.53	42.9	1.69
-24	1-1/2	1 1/2 1/2	44.5	1.75	48.4	1.91
-32	2	2-11 1/2	57.2	2.25	60.3	2.38

Figure

SAE J514 37. Flare(JIC)

Dash size	Inch size (in)	Thread size (in - tpi)	Female thread(I.D)		Male thread(O.D)	
			(mm)	(inch)	(mm)	(inch)
-2	1/8	5/16-24	6.9	0.27	7.8	0.31
-3	3/16	3/8-24	8.5	0.34	9.4	0.37
-4	1/4	7/16-20	9.9	0.39	11.2	0.44
-5	5/16	1/2-20	11.5	0.45	12.6	0.49
-6	3/8	9/16-18	12.9	0.51	14.1	0.56
-8	1/2	3/4-16	17.5	0.69	18.9	0.74
-10	5/8	7/8-14	20.5	0.81	22.1	0.87
-12	3/4	1 1/16-12	24.9	0.98	26.9	1.06
-14	7/8	1 3/16-12	28.1	1.11	30.0	1.18
-16	1	1 5/16-12	31.3	1.23	33.1	1.31
-20	1-1/4	1 5/8-12	39.2	1.54	41.1	1.62
-24	1-1/2	1 7/8-12	45.6	1.79	47.4	1.87
-32	2	2 1/2-12	61.4	2.42	63.3	2.49

Figure

SAE J1453 O-Ring Face Seal(ORFS)

Dash size	Inch size (in)	Thread size (in - tpi)	Female thread(I.D)		Male thread(O.D)	
			(mm)	(inch)	(mm)	(inch)
-4	1/4	9/16-18	12.9	0.51	14.1	0.56
-6	3/8	11/16-16	15.9	0.63	17.3	0.68
-8	1/2	13/16-16	19.1	0.75	20.5	0.81
-10	5/8	1-14	23.6	0.93	25.2	0.99
-12	3/4	1 3/16-12	28.1	1.11	30.0	1.18
-16	1	1 7/16-12	34.4	1.36	36.3	1.43
-20	1-1/4	1 11/16-12	40.8	1.61	42.7	1.68
-24	1-1/2	2-12	48.7	1.92	50.6	1.99

Figure

SAE J514 Straight Thread O-Ring Boss

Dash size	Inch size (in)	Thread size (in - tpi)	Female thread(I.D)		Male thread(O.D)	
			(mm)	(inch)	(mm)	(inch)
-2	1/8	5/16-24	6.9	0.27	7.8	0.31
-3	3/16	3/8-24	8.5	0.34	9.4	0.37
-4	1/4	7/16-20	9.9	0.39	11.2	0.44
-5	5/16	1/2-20	11.5	0.45	12.6	0.49
-6	3/8	9/16-18	12.9	0.51	14.1	0.56
-8	1/2	3/4-16	17.5	0.69	18.9	0.74
-10	5/8	7/8-14	20.5	0.81	22.1	0.87
-12	3/4	1 1/16-12	24.9	0.98	26.9	1.06
-14	7/8	1 3/16-12	28.1	1.11	30.0	1.18
-16	1	1 5/16-12	31.3	1.23	33.1	1.31
-20	1-1/4	1 5/8-12	39.2	1.54	41.1	1.62
-24	1-1/2	1 7/8-12	45.6	1.79	47.4	1.87
-32	2	2 1/2-12	61.4	2.42	63.3	2.49

Engineering reference

British Standard Connection

Figure

BSPP & BSPT

Dash size	Inch size (in)	Thread size (in - tpi)	Female thread(I.D)		Male thread(O.D)	
			(mm)	(inch)	(mm)	(inch)
-2	1/8	1/8-29	8.7	0.34	9.5	0.38
-4	1/4	1/4-19	11.1	0.44	13.5	0.53
-6	3/8	3/8-19	15.1	0.59	16.7	0.66
-8	1/2	1/2-14	18.3	0.72	20.6	0.81
-10	5/8	5/8-14	20.6	0.81	23.0	0.91
-12	3/4	3/4-14	23.8	0.94	26.2	1.03
-16	1	1-11	30.2	1.19	33.3	1.31
-20	1-1/4	1 1/4-11	38.9	1.53	42.1	1.66
-24	1-1/2	1 1/2-11	45.2	1.78	47.6	1.88
-32	2	2-11	56.4	2.22	59.5	2.34

Japanese Standard Connection

JIS 30。 Flare Pipe Parallel Thread
JIS B 0202

JIS 30。 Inverted Seat Pipe Parallel Thread
JIS B 0202

Figure

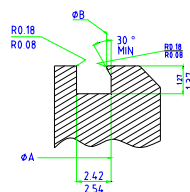
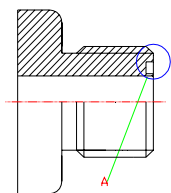
JIS 30。 Flare (PF-JIS B 0202)
JIS 30。 Pipe Tapered Thread (PT-JIS B 0203)
JIS 30。 Inverted Seat(JIS B 0202)

Dash size	Inch size (in)	Thread size (in - tpi)	Female thread(I.D)		Male thread(O.D)	
			(mm)	(inch)	(mm)	(inch)
-2	1/8	1/8-28	8.7	0.34	9.5	0.38
-4	1/4	1/4-19	11.9	0.47	13.5	0.53
-6	3/8	3/8-19	15.1	0.59	16.7	0.66
-8	1/2	1/2-14	19.1	0.75	20.6	0.81
-10	5/8	5/8-14	20.6	0.81	23.1	0.91
-12	3/4	3/4-14	23.8	0.94	26.2	1.03
-16	1	1-11	30.2	1.19	33.3	1.31
-20	1-1/4	1 1/4-11	38.9	1.53	42.1	1.66
-24	1-1/2	1 1/2-11	45.2	1.78	47.6	1.88
-32	2	2-11	56.4	2.22	59.5	2.34

ORFS Groove Style

Dimension Table

Figure

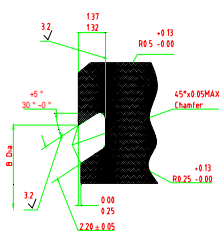


Half Dove-tail Groove

Thread size	A Diameter	B Diameter
9/16-18 UNF	0.430~0.436	0.408~0.427
11/16-16 UN	0.493~0.499	0.481~0.490
13/16-16 UN	0.619~0.623	0.607~0.616
1-14 UNS	0.745~0.751	0.725~0.734
1 3/16-12 UN	0.869~0.876	0.851~0.860
1 7/16-12 UN	1.054~1.061	1.035~1.045
1 11/16-12 UN	1.304~1.314	1.284~1.293
2-12 UN	1.616~1.625	1.595~1.604

Thread size	A Diameter	B ± 0.10
9/16-18 UNF	0.430~0.436	0.417
11/16-16 UN	0.493~0.499	0.48
13/16-16 UN	0.619~0.624	0.606
1-14 UNS	0.745~0.751	0.724
1 3/16-12 UN	0.869~0.877	0.85
1 7/16-12 UN	1.054~1.062	1.035
1 11/16-12 UN	1.304~1.314	1.283
2-12 UN	1.616~1.626	1.594

Figure



Full Dove-tail Groove

Thread size	B Diameter(mm)	Inch	Tolerance
9/16-18 UNF	10.8	0.425	± 0.05
11/16-16 UN	12.4	0.488	
13/16-16 UN	15.6	0.614	
1-14 UNS	18.7	0.736	
1 3/16-12 UN	21.9	0.862	
1 7/16-12 UN	26.6	1.047	
1 11/16-12 UN	32.95	1.297	
2-12 UN	40.8	1.606	

Part No. Identification

Section	Type	Code				Indicator		Dash size (++/16)		
		main	sub							
C	30 ₀ Inverted	B	BSPT(PT, R) thread	++T	Tee type	1	straight (connector)	* divided by -16		
						2	bulk-head type			
D	37 ₀ (30 ₀) Flare	P	BSPP(PF, G) Thread	++F	Feamale Thread	3	straight union m/f-s/w type			
						4	45 ₀ elbow			
S	O-ring Face Sealed	J	JIC(UNF-SAE)	++R	Reducing type	5	45 ₀ Elbow m/f-s/w type			
						6	feamale socket(connector)			
H	Special specification	O	O-ring assembled	++w	Welding type	7	male plug			
						M	Metric Thread		8	90 ₀ elbow m/f-s/w type
						N	NPTF Thread		9	90 ₀ elbow m/m
		X	Cross			9F	90 ₀ Elbow m/feamale thread			