

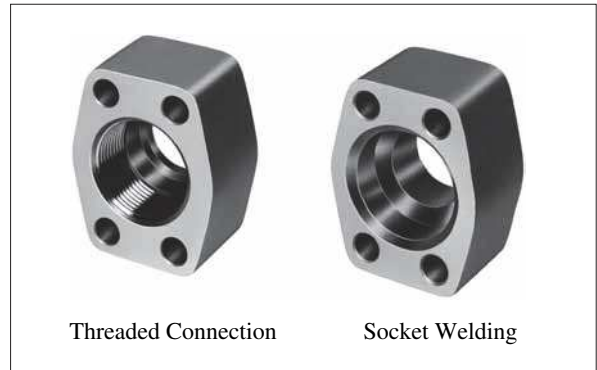
■ “F5” Series Pipe Flange Kits

The dimensions of the flange mounting surface are based upon SAE 4 Bolt Split Flange (Standard Pressure Series).

■ Specifications

● Max. Operating Pressure

Maximum operation pressure varies with the type of pipe connection or flange size. Refer to the applicable installation drawings.



■ Model Number Designation

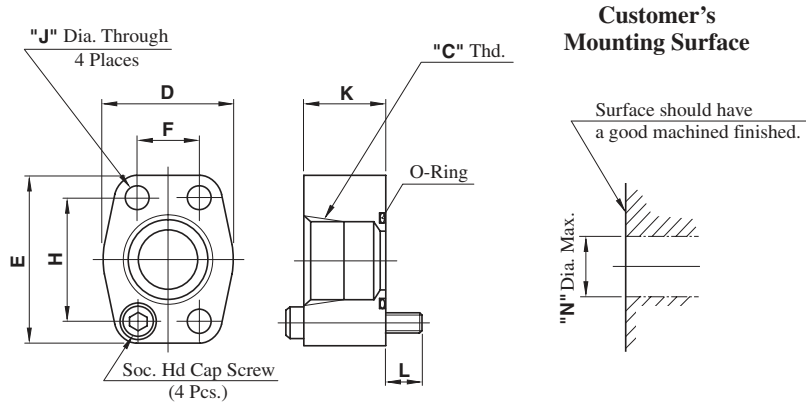
F-	F5	-06	-A	-10	*
Material of Seal	Series Number	Flange Size	Type of Pipe Connection	Design Number	Design Standards*
None: Standard NBR (Buna N) Seal	F5	04W, 04, 06X 06, 08, 08W, 10 12, 16, 16W, 20 24, 28, 32	A: Threaded Connection	10	None: Japanese Standard "JIS"
		04, 06, 08 10, 12, 16 20			80: European Design Standard
		04W, 04, 06 08, 10, 12 16, 16W, 20 24, 28, 32			90: N. American Design Standard
F: FPM (Viton) Seal (For Synthetic Fluids)		04W, 04, 06X 06, 08, 08W, 10 12, 16, 16W, 20 24, 28, 32	B: Socket Welding	10	None: Japanese Standard "JIS" & European Design Standard
		04W, 04, 06 08, 10, 12 16, 16W, 20, 24 28, 32			90: N. American Design Standard
		04, 06, 08 10, 12, 16 20	C: Butt Welding	10	None: Japanese Standard "JIS" & European Design Standard 90: N. American Design Standard

★ Three different design standards are available as shown below. Select the suitable design standard to your requirement.

Type of Pipe Connection	Design Standard	Pipe Thread	Mounting Bolt (Socket Head Cap Screw)
Threaded Connection	Japanese Standard "JIS"	Rc	Metric Thd.
	European Design Standard	BSPF	Metric Thd.
	N. American Design Standard	NPT	Unified Thd.
Pipe Socket Welding Butt Welding	Japanese Standard "JIS" & European Design Standard	—	Metric Thd.
	N. American Design Standard	—	Unified Thd.

Threaded Connection

Japanese Standard "JIS" : F5-*-A-10
 N. American Design Standard : F5-*-A-1090



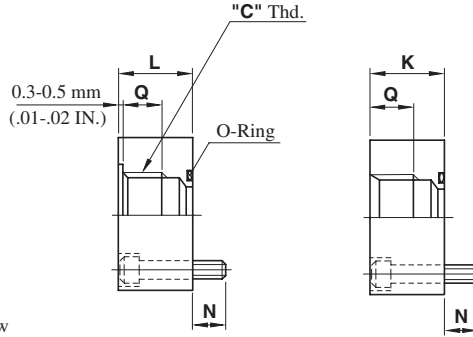
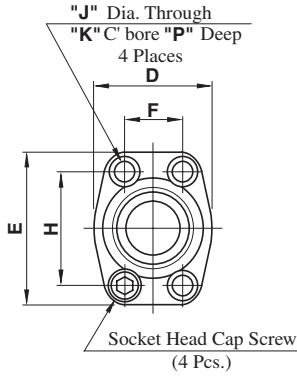
Kit Numbers	Piping Size "C" Thd.	Dimensions mm (Inches)								Socket Head Cap Screw (4 Pcs.)	O-Ring	Max. Operating Pressure MPa (PSI)	Approx. Mass kg (lbs.) ^{*1}	Recommended Tightening Torque (Tolerance ±10%) Nm (IN.lbs.) ^{*2}		
		D	E	F	H	J	K	L	N							
F5-04W-A-10	Rc 3/8	40 (1.57)	54 (2.13)	17.5 (.689)	38.1 (1.500)	8.8 (.346)	30 (1.18)	10 (.39)	13 (.51)	M8 × 40 Lg.	SO-NB-P22	28 (4060)	0.5 (1.1)	35 (310)		
F5-04-A-10	Rc 1/2							14.5 (.57)		5/16-18UNC × 1-3/4 Lg.						
F5-04W-A-1090	3/8 NPT															
F5-04-A-1090	1/2 NPT															
F5-06X-A-10	Rc 3/4	48 (1.89)	65 (2.56)	22.2 (.874)	47.6 (1.874)	11 (.433)	8.8 (.346)	15 (.59)	19 (.75)	M8 × 45 Lg.	SO-NB-G30	28 (4060)	0.7 (1.5)	35 (310)		
F5-06-A-10							11 (.433)	14.5 (.57)		M10 × 45 Lg.				68.5 (606)		
F5-06-A-1090							3/4 NPT	3/8-16UNC × 1-3/4 Lg.								
F5-08W-A-10	Rc 3/4	55 (2.17)	70 (2.76)	26.2 (1.031)	52.4 (2.063)	11 (.433)	30 (1.18)	15 (.59)	26 (1.02)	M10 × 45 Lg.	SO-NB-G35	28 (4060)	0.9 (2.0)	68.5 (606)		
F5-08-A-10	Rc 1							14.5 (.57)		3/8-16UNC × 1-3/4 Lg.						
F5-08-A-1090	1 NPT															
F5-10-A-10	Rc 1-1/4	64 (2.52)	80 (3.15)	30.2 (1.189)	58.7 (2.311)	11 (.433)	38 (1.50)	17 (.67)	32 (1.26)	M10 × 55 Lg.	SO-NB-G40	28 (4060)	1.2 (2.6)	68.5 (606)		
F5-10-A-1090	1-1/4 NPT							12 (.472)		19.2 (.76)					7/16-14UNC × 2-1/4 Lg.	
F5-12-A-10	Rc 1-1/2	72 (2.83)	94 (3.70)	35.7 (1.406)	69.9 (2.752)	13.5 (.531)	38 (1.50)	17 (.67)	38 (1.50)	M12 × 55 Lg.	SO-NB-G50	21 (3050)	1.5 (3.3)	118 (1044)		
F5-12-A-1090	1-1/2 NPT							19.2 (.76)		1/2-13UNC × 2-1/4 Lg.						
F5-16W-A-10	Rc 1-1/2	85 (3.35)	102 (4.02)	42.9 (1.689)	77.8 (3.063)	13.5 (.531)	38 (1.50)	17 (.67)	48 (1.89)	63 (2.48)	SO-NB-G60	21 (3050)	1.8 (4.0)	118 (1044)		
F5-16-A-10	Rc 2							51 (2.01)	M12 × 55 Lg.						17.5 (2540)	1.7 (3.8)
F5-16W-A-1090	1-1/2 NPT							48 (1.89)	1/2-13UNC × 2-1/4 Lg.						21 (3050)	1.8 (4.0)
F5-16-A-1090	2 NPT							19.2 (.76)							51 (2.01)	17.5 (2540)
F5-20-A-10	Rc 2-1/2	102 (4.02)	114 (4.49)	50.8 (2.000)	88.9 (3.500)	13.5 (.531)	48 (1.89)	17 (.67)	63 (2.48)	M12 × 65 Lg.	SO-NB-G75	17.5 (2540)	2.0 (4.4)	118 (1044)		
F5-20-A-1090	2-1/2 NPT							21.8 (.86)		1/2-13UNC × 2-3/4 Lg.						
F5-24-A-10	Rc 3	116 (4.57)	135 (5.31)	61.9 (2.437)	106.4 (4.189)	17.5 (.689)	53 (2.09)	17 (.67)	76 (2.99)	88 (3.46)	SO-NB-G85	3.5 (510)	3.4 (7.5)	287 (2540)		
F5-24-A-1090	3 NPT							19.2 (.76)	5/8-11UNC x 2-3/4 Lg.							
F5-28-A-10	Rc 3-1/2	134 (5.28)	153 (6.02)	69.9 (2.752)	120.7 (4.752)	17.5 (.689)	53 (2.09)	17 (.67)	88 (3.46)	101 (3.98)	SO-NB-G100	3.5 (510)	3.7 (8.2)	287 (2540)		
F5-28-A-1090	3-1/2 NPT							19.2 (.76)							5/8-11UNC x 2-3/4 Lg.	
F5-32-A-10	Rc 4	150 (5.91)	162 (6.38)	77.8 (3.068)	130.2 (5.126)	17.5 (.689)	53 (2.09)	17 (.67)	101 (3.98)	19.2 (.76)	SO-NB-G115	3.5 (510)	3.7 (8.2)	287 (2540)		
F5-32-A-1090	4 NPT							19.2 (.76)							5/8-11UNC x 2-3/4 Lg.	

*1. Approx. mass is the value including socket head cap screws (4 Pcs.).

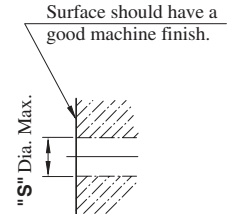
*2. The values of recommended tightening torque are for socket head cap screws and apply to when these flanges are used for pressure line.

■ Threaded Connection

European Design Standard
F5-*-A-1180



Customer's
Mounting Surface



Piping Size:
1/2 to 1-1/2

Piping Size:
2 & 2-1/2

Kit Numbers	Piping Size "C" Thd.	Dimensions mm (Inches)										Socket Head Cap Screw (4 Pcs.)	O-Ring	Max. Operating Pressure MPa (PSI)	Approx. Mass kg (lbs.)	
		D	E	F	H	J	K	L	N	P	Q					S
F5-04-A-1080	1/2 BSP.F	40 (1.57)	59 (2.32)	17.5 (.689)	38.1 (1.500)	8.8 (.346)	14 (.55)	31 (1.22)	12.6 (.50)	8.6 (.34)	17 (.67)	15 (.59)	M8 × 35 Lg.	SO-NB-P22	28 (4060)	0.5 (1.1)
F5-06-A-1080	3/4 BSP.F	48 (1.89)	72 (2.83)	22.2 (.874)	47.6 (1.874)	11 (.433)	17.5 (.69)	31 (1.22)	14.8 (.58)	10.8 (.43)	20 (.79)	19 (.75)	M10 × 35 Lg.	SO-NB-G30	28 (4060)	0.7 (1.5)
F5-08-A-1080	1 BSP.F	55 (2.17)	77 (3.03)	26.2 (1.031)	52.4 (2.063)	11 (.433)	17.5 (.69)	31 (1.22)	14.8 (.58)	10.8 (.43)	21 (.83)	25 (.98)	M10 × 35 Lg.	SO-NB-G35	28 (4060)	0.9 (2.0)
F5-10-A-1080	1-1/4 BSP.F	64 (2.52)	83 (3.27)	30.2 (1.189)	58.7 (2.311)	11 (.433)	17.5 (.69)	39 (1.54)	16.8 (.66)	10.8 (.43)	22 (.87)	32 (1.26)	M10 × 45 Lg.	SO-NB-G40	28 (4060)	1.2 (2.6)
F5-12-A-1080	1-1/2 BSP.F	72 (2.83)	99 (3.90)	35.7 (1.406)	69.9 (2.752)	13.5 (.531)	21 (.83)	41 (1.61)	17.5 (.69)	13.5 (.53)	22 (.87)	38 (1.50)	M12 × 45 Lg.	SO-NB-G50	21 (3050)	1.6 (3.5)
F5-16-A-1080	2 BSP.F	85 (3.35)	107 (4.21)	42.9 (1.689)	77.8 (3.063)	13.5 (.531)	21 (.83)	41 (1.61)	17.5 (.69)	13.5 (.53)	31 (1.22)	50 (1.97)	M12 × 45 Lg.	SO-NB-G65	17.5 (2540)	1.8 (4.0)
F5-20-A-1080	2-1/2 BSP.F	102 (4.02)	118 (4.65)	50.8 (2.000)	88.9 (3.500)	13.5 (.531)	21 (.83)	46 (1.81)	17.5 (.69)	13.5 (.53)	31 (1.22)	63 (2.48)	M12 × 50 Lg.	SO-NB-G75	17.5 (2540)	1.9 (4.2)

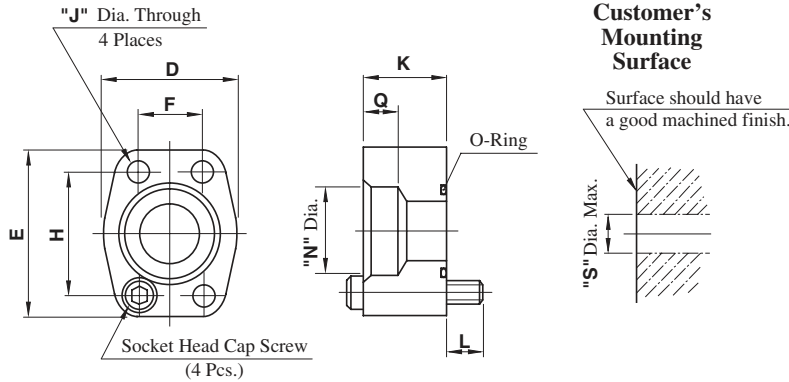
★ Approx. mass is the value including socket head cap screws (4 Pcs.).

● Recommended Tightening Torque
For Socket Head Cap Screw

Kit Numbers	Tightening Torque	
	Recommendation Nm (IN.lbs.)	Tolerance
F5-04-A-1080	35 (310)	±10%
F5-06-A-1080	68.5 (606)	
F5-08-A-1080		
F5-10-A-1080		
F5-12-A-1080	118 (1044)	
F5-16-A-1080		
F5-20-A-1080		

Note: The values of tightening torque above apply to when these flanges are used for pressure line.

■ Socket Welding
 Japanese Standard "JIS" &
 European Design Standard : F5- *-B-10
 N. American Design Standard : F5- *-B-1090



● Recommended Tightening Torque
 For Socket Head Cap Screw

Kit Numbers	Tightening Torque	
	Recommendation Nm (IN.lbs.)	Tolerance
F5-04W-B F5-04-B F5-06X-B	35 (310)	±10%
F5-06-B F5-08W-B F5-08-B F5-10-B	68.5 (660)	
F5-12-B F5-16W-B F5-16-B F5-20-B	118 (1044)	
F5-24-B F5-28-B F5-32-B	287 (2540)	

Note: The values of tightening torque above apply to when these flanges are used for pressure line.

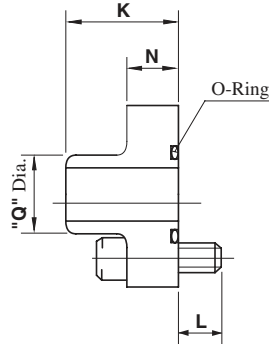
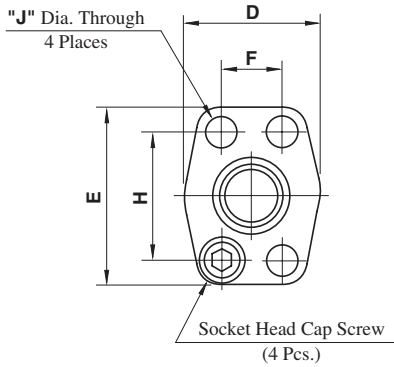
Kit Numbers	Piping Size	Dimensions mm (Inches)										Socket Head Cap Screw (4 Pcs.)	O-Ring	Max. Operating Pressure MPa(PSI)	Approx. Mass kg (lbs.)		
		D	E	F	H	J	K	L	N	Q	S						
F5-04W-B-10 ----- F5-04W-B-1090	3/8							10 (.39)	17.8 (.701)	9 (.35)				M8 × 40 Lg.	SO-NB-P22	28 (4060)	0.5 (1.1)
F5-04-B-10 ----- F5-04-B-1090	1/2	40 (1.57)	54 (2.13)	17.5 (.689)	38.1 (1.500)	8.8 (.346)	30 (1.18)	10 (.39)	22.2 (.874)	11 (.43)		13 (.51)	5/16-18UNC × 1-3/4 Lg.				
F5-06X-B-10 ----- F5-06-B-10 ----- F5-06-B-1090	3/4	48 (1.89)	65 (2.56)	22.2 (.874)	47.6 (1.874)	11 (.433)	30 (1.18)	15 (.59)	27.7 (1.091)	12 (.47)		19 (.75)	M8 × 45 Lg. ----- M10 × 45 Lg. ----- 3/8-16UNC × 1-3/4 Lg.	SO-NB-G30	28 (4060) ----- 14 (2030)	0.7 (1.5)	
F5-08W-B-10 ----- F5-08-B-10 ----- F5-08-B-1090	3/4 ----- 1							15 (.59)	27.7 (1.091)	12 (.47)		26 (1.02)	M10 × 45 Lg. ----- 3/8-16UNC × 1-3/4 Lg.	SO-NB-G35	28 (4060) ----- 14 (2030)	0.9 (2.0)	
F5-10-B-10 ----- F5-10-B-1090	1-1/4	64 (2.52)	80 (3.15)	30.2 (1.189)	58.7 (2.311)	11 (.433)	38 (1.50)	17 (.67)	43.2 (1.701)	16 (.63)		32 (1.26)	M10 × 55 Lg. ----- 7/16-14UNC × 2-1/4 Lg.	SO-NB-G40	14 (2030)	1.2 (2.7)	
F5-12-B-10 ----- F5-12-B-1090	1-1/2	72 (2.83)	94 (3.70)	35.7 (1.406)	69.9 (2.752)	13.5 (.531)	38 (1.50)	17 (.67)	49.1 (1.933)	18 (.71)		38 (1.50)	M12 × 55 Lg. ----- 1/2-13UNC × 2-1/4 Lg.	SO-NB-G50	14 (2030)	1.5 (3.3)	
F5-16W-B-10 ----- F5-16W-B-1090	1-1/2							17 (.67)	49.1 (1.933)	18 (.71)		48 (1.89)	M12 × 55 Lg. ----- 1/2-13UNC × 2-1/4 Lg.	SO-NB-G60	21 (3050)	1.8 (3.7)	
F5-16-B-10 ----- F5-16-B-1090	2	85 (3.35)	102 (4.02)	42.9 (1.689)	77.8 (3.063)	13.5 (.531)	38 (1.50)	17 (.67)	61.1 (2.406)	20 (.79)		51 (2.01)	M12 × 55 Lg. ----- 1/2-13UNC × 2-1/4 Lg.	SO-NB-G65	10.5 (1520)	1.7 (3.8)	
F5-20-B-10 ----- F5-20-B-1090	2-1/2	102 (4.02)	114 (4.49)	50.8 (2.000)	88.9 (3.500)	13.5 (.531)	48 (1.89)	17 (.67)	77.1 (3.035)	22 (.87)		63 (2.48)	M12 × 65 Lg. ----- 1/2-13UNC × 2-3/4 Lg.	SO-NB-G75	7 (1020)	2.0 (4.4)	
F5-24-B-10 ----- F5-24-B-1090	3	116 (4.57)	135 (5.31)	61.9 (2.437)	106.4 (4.189)	17.5 (.689)	38 (1.50)	17 (.67)	90.0 (3.543)	25 (.98)		76 (2.99)	M16 × 55 Lg. ----- 5/8-11UNC × 2-1/4 Lg.	SO-NB-G85	3.5 (510)	2.7 (6.0)	
F5-28-B-10 ----- F5-28-B-1090	3-1/2	134 (5.28)	153 (6.02)	69.9 (2.752)	120.7 (4.752)	17.5 (.689)	38 (1.50)	17 (.67)	102.8 (4.047)	28 (1.10)		88 (3.46)	M16 × 55 Lg. ----- 5/8-11UNC × 2-1/4 Lg.	SO-NB-G100	3.5 (510)	3.4 (7.5)	
F5-32-B-10 ----- F5-32-B-1090	4	150 (5.91)	162 (6.38)	77.8 (2.063)	130.2 (5.126)	17.5 (.689)	38 (1.50)	17 (.67)	115.5 (4.547)	31.5 (1.24)		101 (3.98)	M16 × 55 Lg. ----- 5/8-11UNC × 2-1/4 Lg.	SO-NB-G115	3.5 (510)	3.7 (8.2)	

★ Approx. mass is the value including socket head cap screws (4 Pcs.).

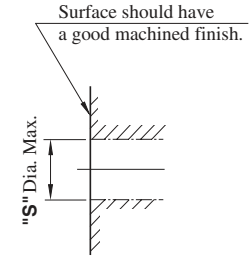
■ Butt Welding

Japanese Standard "JIS" & European Design Standard : F5- *-C-10

N. American Design Standard : F5- *-C-1090



**Customer's
Mounting Surface**



Kit Numbers	Piping Size	Dimensions mm (Inches)										Socket Head Cap Screw (4 Pcs.)	O-Ring	Max. Operating Pressure MPa (PSI)	Approx.* Mass kg (lbs.)
		D	E	F	H	J	K	L	N	Q	S				
F5-04-C-10 ----- F5-04-C-1090	1/2	40 (1.57)	54 (2.13)	17.5 (.689)	38.1 (1.500)	8.8 (.346)	39 (1.54)	13 (.51) 14.8 (.58)	17 (.67)	21.7 (.85)	13 (.51)	M8 × 30 Lg. ----- 5/16-18UNC × 1-1/4Lg.	SO-NB-P22	28 (4060)	0.25 (.6)
F5-06-C-10 ----- F5-06-C-1090	3/4	48 (1.89)	65 (2.56)	22.2 (.874)	47.6 (1.874)	11 (.433)	41 (1.61)	16 (.63) 19.1 (.75)	19 (.75)	27.2 (1.07)	19 (.75)	M10 × 35 Lg. ----- 3/8-16UNC × 1-1/2Lg.	SO-NB-G30	28 (4060)	0.35 (.8)
F5-08-C-10 ----- F5-08-C-1090	1	55 (2.17)	70 (2.76)	26.2 (1.031)	52.4 (2.063)	11 (.433)	42 (1.65)	16 (.63) 19.1 (.75)	19 (.75)	34 (1.34)	26 (1.02)	M10 × 35 Lg. ----- 3/8-16UNC × 1-1/2Lg.	SO-NB-G35	28 (4060)	0.45 (1.0)
F5-10-C-10 ----- F5-10-C-1090	1-1/4	64 (2.52)	80 (3.15)	30.2 (1.189)	58.7 (2.311)	11 (.433) 12 (.472)	44 (1.73)	16 (.63) 19.1 (.75)	19 (.75)	42.7 (1.68)	32 (1.26)	M10 × 35 Lg. ----- 7/16-14UNC × 1-1/2Lg.	SO-NB-G40	28 (4060)	0.63 (1.4)
F5-12-C-10 ----- F5-12-C-1090	1-1/2	72 (2.83)	94 (3.70)	35.7 (1.406)	69.9 (2.752)	13.5 (.531)	50 (1.97)	18 (.71) 16.1 (.63)	22 (.87)	48.6 (1.91)	38 (1.50)	M12 × 40 Lg. ----- 1/2-13UNC × 1-1/2Lg.	SO-NB-G50	21 (3050)	1.3 (2.9)
F5-16-C-10 ----- F5-16-C-1090	2	85 (3.35)	102 (4.02)	42.9 (1.689)	77.8 (3.063)	13.5 (.531)	50 (1.97)	18 (.71) 16.1 (.63)	22 (.87)	60.5 (2.38)	51 (2.01)	M12 × 40 Lg. ----- 1/2-13UNC × 1-1/2Lg.	SO-NB-G65	17.5 (2540)	1.3 (2.9)
F5-20-C-10 ----- F5-20-C-1090	2-1/2	102 (4.02)	114 (4.49)	50.8 (2.000)	88.9 (3.500)	13.5 (.531)	50 (1.97)	20 (.79) 19.5 (.77)	25 (.98)	76.3 (3.00)	63 (2.48)	M12 × 45 Lg. ----- 1/2-13UNC × 1-3/4Lg.	SO-NB-G75	14 (2030)	1.4 (3.1)

★ Approx. mass is the value including socket head cap screws (4 Pcs.).

**● Recommended Tightening Torque
For Socket Head Cap Screw**

Kit Numbers	Tightening Torque	
	Recommendation Nm (IN.lbs.)	Tolerance
F5-04-C	35 (310)	±10%
F5-06-C	68.5 (660)	
F5-08-C		
F5-10-C		
F5-12-C	118 (1044)	
F5-16-C		
F5-20-C		

Note: The values of tightening torque above apply to when these flanges are used for pressure line.