

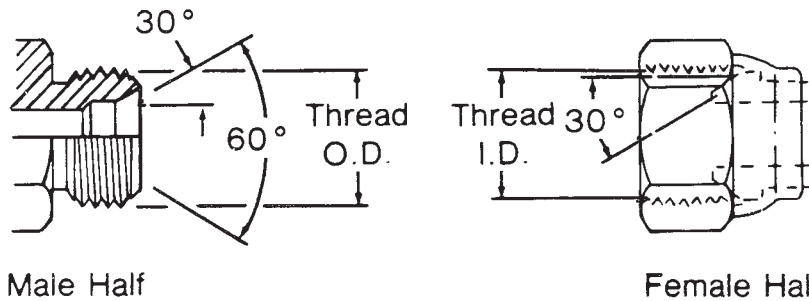


Japanese Connections

JIS 30° Male (Inverted) Seat, Metric Threads

(Threads per JIS B 0207)

The JIS parallel (metric) is the same as the JIS parallel (PF), except for the thread difference.



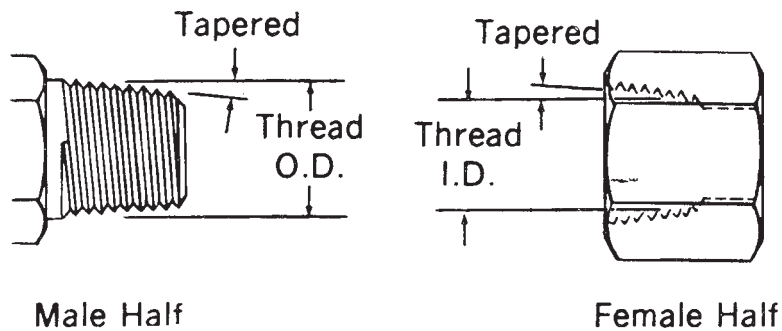
Size mm	Dash Size Equivalent	Thread Size	Male Thread O.D. mm	Female Thread I.D. mm
6	04	M14 x 1,5	14	12,5
9	06	M18 x 1,5	18	16,5
12	08	M22 x 1,5	22	20,5
19	12	M30 x 1,5	30	28,5
25	16	M33 x 1,5	33	31,5
32	20	M42 x 1,5	42	40,5

Japanese Connections

JIS Tapered Pipe (PT)

(Threads per JIS B 0203)

The JIS tapered thread is similar to the BSPT connection in design, appearance and dimensions. The JIS tapered thread and the BSPT connection are interchangeable.



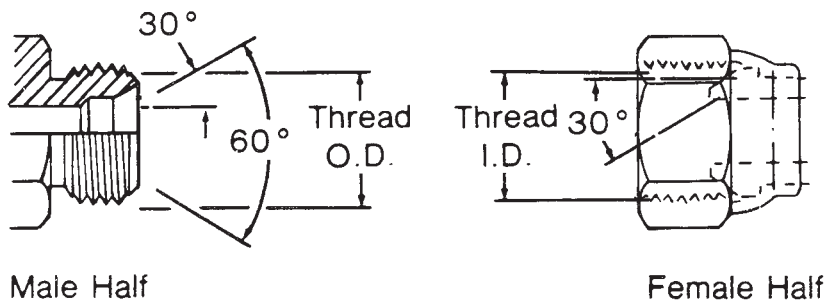
Inch Size	Size mm (Dash)	Nominal Thread Tapered Size (Similar to BSPT)	Male Thread O.D.		Female Thread I.D.	
			Frac.	mm	Frac.	mm
1/4	6 (04)	1/4-19	33/64	13,2	15/32	11,9
3/8	9 (06)	3/8-19	21/32	16,7	19/32	15,3
1/2	12 (08)	1/2-14	13/16	21,0	3/4	19,2
3/4	19 (12)	3/4-14	1 1/32	26,4	31/32	24,6
1	25 (16)	1-11	1 5/16	33,3	1 7/32	30,9
1 1/4	32 (20)	1 1/4-11	1 21/32	41,9	1 9/16	39,6
1 1/2	38 (24)	1 1/2-11	1 7/8	47,8	1 25/32	45,5
2	50 (32)	2-11	2 11/32	59,7	2 1/4	57,4

Japanese Connections

JIS 30° Male Inverted Seat, Parallel Pipe Threads

(Threads per JIS B 0202)

The JIS parallel is similar to the BSPP connection. The JIS parallel thread and the BSPP connection are interchangeable.



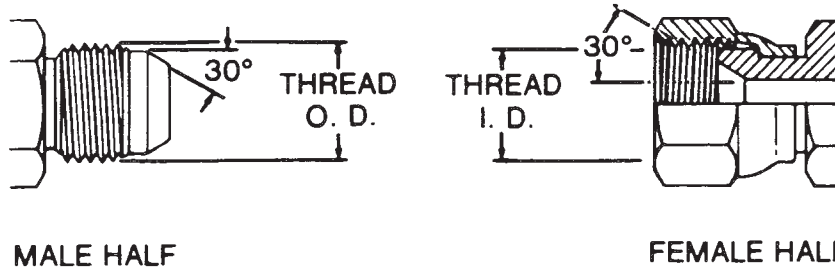
Inch Size	Size mm (Dash)	Nominal Thread Tapered Size (Similar to BSPP)	Male Thread O.D.		Female Thread I.D.	
			Frac.	mm	Frac.	mm
1/4	6 (04)	1/4-19	33/64	13,2	15/32	11,9
3/8	9 (06)	3/8-19	21/32	16,7	19/32	15,3
1/2	12 (08)	1/2-14	13/16	21,0	3/4	19,2
3/4	19 (12)	3/4-14	1 1/32	26,4	3 1/32	24,6
1	25 (16)	1-11	1 5/16	33,3	1 7/32	30,9
1 1/4	32 (20)	1 1/4-11	1 21/32	41,9	1 9/16	39,6
1 1/2	38 (24)	1 1/2-11	1 7/8	47,8	1 25/32	45,5
2	50 (32)	2-11	2 11/32	59,7	2 1/4	57,4

Japanese Connections

JIS 30° Female (Cone) Seat, Parallel Pipe Threads

(Threads per JIS B 0202)

The Japanese JIS 30° flare is similar to the American SAE 37° flare connection in application as well as sealing principles. However, the flare angle and dimensions are different. The threads are similar to BSPP.



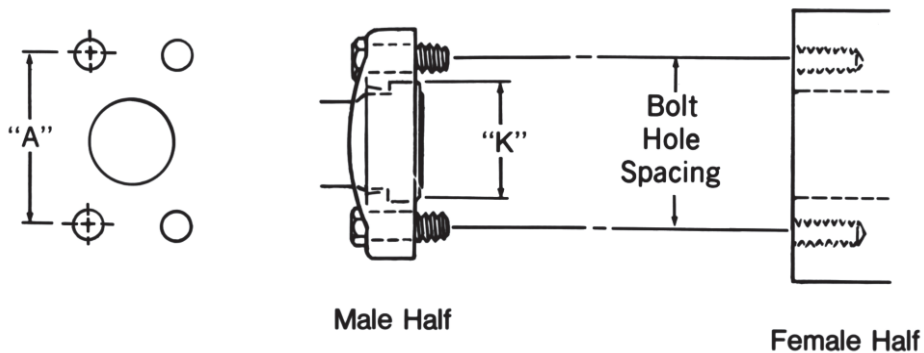
Inch Size	Size mm (Dash)	Nominal Thread Tapered Size (Similar to BSPP)	Male Thread O.D.		Female Thread I.D.	
			Frac.	mm	Frac.	mm
1/4	6 (04)	1/4-19	33/64	13,2	15/32	11,9
3/8	9 (06)	3/8-19	21/32	16,7	19/32	15,3
1/2	12 (08)	1/2-14	13/16	21,0	3/4	19,2
3/4	19 (12)	3/4-14	1 1/32	26,4	31/32	24,6
1	25 (16)	1-11	1 5/16	33,3	1 7/32	30,9
1 1/4	32 (20)	1 1/4-11	1 21/32	41,9	1 9/16	39,6
1 1/2	38 (24)	1 1/2-11	1 7/8	47,8	1 25/32	45,5
2	50 (32)	2-11	2 11/32	59,7	2 1/4	57,4

Japanese Connections

JIS B 8363 4-Bolt Flange*

This connection is commonly used in fluid power systems. There are two pressure ratings. Type I (Code 61) is referred to as the “standard” series, and Type II (Code 62) is the “6000 psi” series. The design concept for both series is the same, but the bolt hole spacing and flanged head diameters are larger for the higher pressure, Type II connection. Both metric and inch bolts are used.

The female (port) is an unthreaded hole with four bolt holes in a rectangular pattern around the port. The male consists of a flanged head, grooved for an o-ring, and either a captive flange or split flange halves with bolt holes to match the port. The seal takes place on the O-Ring, which is compressed between the flanged head and the flat surface surrounding the port. The threaded bolts hold the connection together.



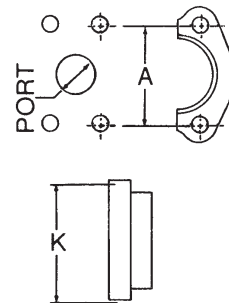
*JIS B 8363, JIS B 8363 Komatsu Flange, ISO/DIS 6162, DIN 20066, and SAE J518 are interchangeable, except for bolt sizes.

Japanese Connections

JIS B 8363 4-Bolt Flange (cont.)

Size mm (Inch) [Dash]	Port Hole mm (in)	Bolt Dimensions mm (in)		Bolt Hole Spacing "A" mm (in)	
		Type I (Cd.61)	Type II (Cd.62)	Type I (Cd.61)	Type II (Cd.62)
12 (½) [08]	12.7 (.50)	M8x1.25x30 ⅝-18 x 1¼	M8x1.25x30 ⅝-18 x 1¼	38.10 (1.50)	40.49 (1.57)
19 (¾) [12]	19.1 (.75)	M10x1.5x30 ⅜-16 x 1¼	M10x1.5x40 ⅜-16 x 1½	47.63 (1.88)	50.80 (2.00)
25 (1) [16]	25.4 (1.00)	M10x1.5x30 ⅜-16 x 1¼	M12x1.75x45 ⅞-14 x 1¾	52.37 (2.06)	57.15 (2.25)
32 (1¼) [20]	31.7 (1.25)	M10x1.5x40 ⅞-14 x 1½	M14x2x45 ½-13 x 1¾	58.72 (2.31)	66.68 (2.63)
38 (1½) [24]	38.0 (1.50)	M12x1.75x40 ½-13 x 1½	M16x2x55 ⅝-11 x 2¼	69.85 (2.75)	79.38 (3.13)
50 (2) [20]	50.8 (2.00)	M12x1.75x40 ½-13 x 1½	M20x2.5x70 ¾-10 x 2¾	77.77 (3.06)	96.82 (3.81)

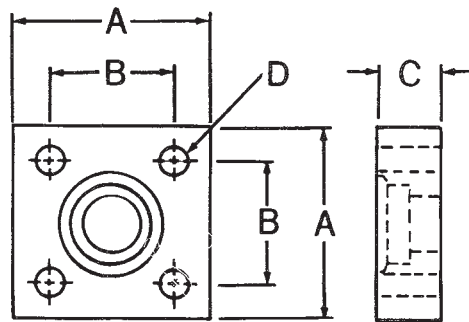
Inch Size	Flanged Head Diameter "K" mm (in)	
	Type I (Cd.61)	Type II (Cd.62)
½	30.18 (1.19)	31.75 (1.25)
¾	38.10 (1.50)	41.28 (1.63)
1	44.45 (1.75)	47.63 (1.88)
1¼	50.80 (2.00)	53.98 (2.13)
1½	60.33 (2.38)	63.50 (2.50)
2	71.42 (2.81)	79.38 (3.13)



Japanese Connections

JIS 210 Kg/cm² 4-Bolt Square Flange

The JIS 4-bolt square flange connection is similar in concept to the SAE 4-bolt flange connection, except that the JIS bolt pattern is square and the flange itself is different.



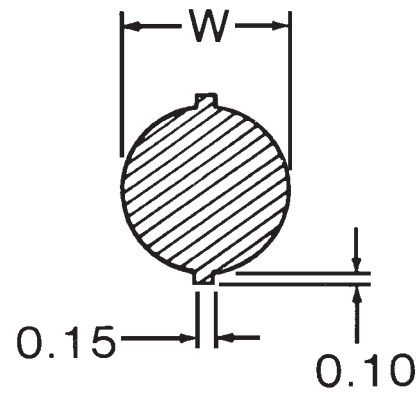
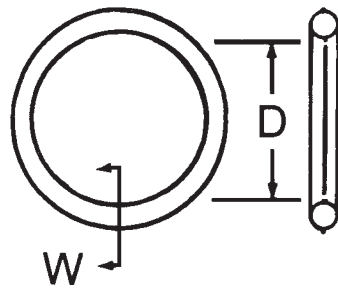
Size mm	Appx. Inch Size	Bolt Size mm*	Dim. "A" mm	Dim. "B" mm	Dim. "C" mm	Bolt Hole Dim. "D" mm
12	½	M10x1.5x55 (80)		63	40	2211
19	¾	M10x1.5x55 (80)		68	45	2211
25	1	M12x1.75x70 (100)	80	53	28	13
32	1¼	M12x1.75x70 (100)	90	63	28	13
38	1½	M16x2.0x90 (100)		100	70	3618
38	1½	M16x2.0x90 (130)		100	70	3618
50	2	M16x2.0x90 (130)		112	80	3618

*Bolt Length for Long Design

Japanese Connections

JIS 210 Kgf/cm² O-Ring

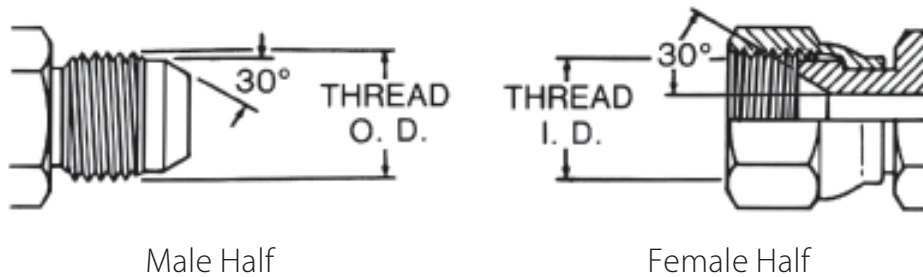
Nominal Size mm	Dim. "D" mm	Dim. "W" mm
12	24.4±0.15	3.1±0.1
19	29.4±0.15	3.1±0.1
25	34.4±0.15	3.1±0.1
32	39.4±0.15	3.1±0.1
38	49.4±0.15	3.1±0.1
50	59.4±0.15	3.1±0.1



Japanese Connections

Komatsu 30° flare

The Japanese Komatsu 30° flare is similar to the American SAE 37° flare connection in application as well as sealing principles. However, the flare angle and dimensions are different. The threads are metric.



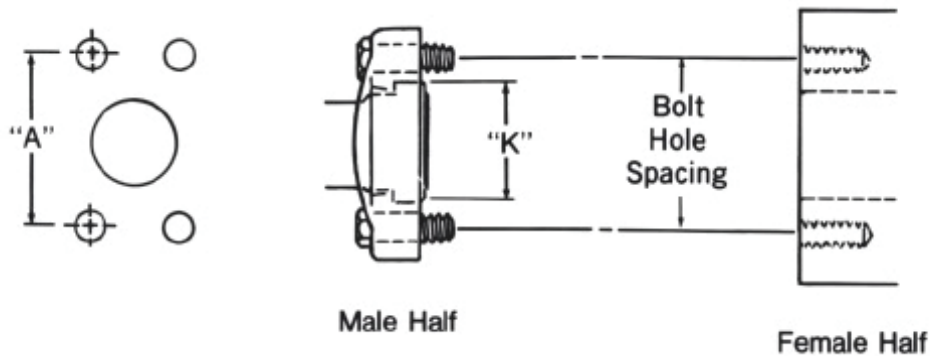
Komatsu Nominal size mm	Danfoss equivalent	Komatsu Thread
02	04	M14 x 1.5
03	06	M18 x 1.5
04	08	M22 x 1.5
05	10	M24 x 1.5
06	12	M30 x 1.5
10	16	M33 x 1.5
12	20	M36 x 1.5
14	24	M42 x 1.5

Japanese Connections

JIS B 8363 Komatsu Flange

The Komatsu flange is nearly identical to SAE Code 61 flanges, with the exception that it uses a metric O-ring and includes an additional flange size, -10. It conforms to JIS B 8363.

The female (port) is an unthreaded hole with four bolt holes in a rectangular pattern around the port. The male consists of a flanged head, grooved for an o-ring, and either a captive flange or split flange halves with bolt holes to match the port. The seal takes place on the o-ring, which is compressed between the flanged head and the flat surface surrounding the port. The threaded bolts hold the connection together.



*JIS B 8363 Komatsu Flange, JIS B 8363, ISO/DIS 6162, DIN 20066, and SAE J518 are interchangeable, except for bolt sizes.

Japanese Connections

JIS B 8363 4-Bolt Komatsu Flange (cont.)

Bolt Dimensions mm (in)			
Size mm (Inch) [Dash]	Port Hole mm (in)	Type I (Cd.61)	Type I (Cd.61)
12 (½) [08]	12.7 (.50)	M8x1.25x30 ⅝-18 x 1¼	38.10 (1.50)
16* (⅝) [10]	15.9 (.63)	M8x1.25x30 ⅝-18 x 1¼	42.90 (1.69)
19 (¾) [12]	19.1 (.75)	M10x1.5x30 ⅜-16 x 1¼	47.63 (1.88)
25 (1) [16]	25.4 (1.00)	M10x1.5x30 ⅜-16 x 1¼	52.37 (2.06)
32 (1¼) [20]	31.7 (1.25)	M10x1.5x40 ⅞-14 x 1½	58.72 (2.31)
38 (1½) [24]	38.0 (1.50)	M12x1.75x40 ½-13 x 1½	69.85 (2.75)
50 (2) [20]	50.8 (2.00)	M12x1.75x40 ½-13 x 1½	77.77 (3.06)

Flanged Head Diameter "K" mm (in)	
Inch Size	Type I (Cd.61)
1/2	30.18 (1.19)
5/8	34.20 (1.35)
3/4	38.10 (1.50)
1	44.45 (1.75)
1¼	50.80 (2.00)
1½	60.33 (2.38)
2	71.42 (2.81)

*This size 16 (5/8) is not available in any other 4 bolt flange offering.

