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Coupling Identification - German DIN (Deutsche Industriale Norme)

There are five coupling systems generally used for hydraulic connections today. They are identified ge

[North American](#) [British](#) [French](#) [German](#) [Japanese](#)

German Thread Types

Popular couplings are German DIN (Deutsche Industriale Norme). A coupling referred to as metric, usu
Flanges are standard Code 61 or Code 62 (except -10)*.

[DIN 24° Cone](#)

[DIN 60° Cone](#)

[DIN 3852 Couplings](#)

[DIN 3852 Type C](#)

[Metric Standpipe Assembly](#)

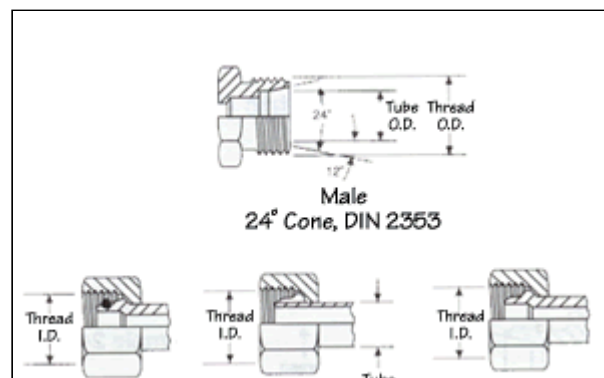
DIN 24° Cone

The DIN 24° cone male will mate with any of the three females shown.

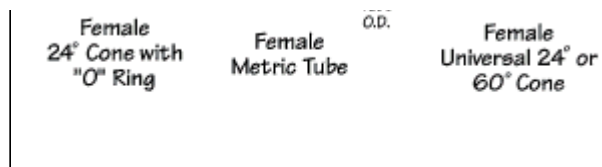
The male has a 24° seat, straight metric threads, and a recessed counterbore which matches the tube O.D. of the coupling used with it. The mating female is a 24° cone with O-ring, a metric tube fitting or a universal 24° or 60° cone.

There is a light and heavy series DIN coupling. Proper identification is made by measuring both the thread size and the tube O.D. (The heavy series has a smaller tube O.D. than the light, but has a thicker wall section.)

When measuring the flare angle with the seat angle gauge, use the 12° gauge. (The seat angle gauge measures the angle from the connector centerline.)



Metric Thread Size	Male Thread O.D. (mm)	Female Thread I.D. (mm)	Tu
M12x1.5	12.0	10.5	
M14x1.5	14.0	12.5	
M16x1.5	16.0	14.5	
M18x1.5	18.0	16.5	
M20x1.5	20.0	18.5	
M22x1.5	22.0	20.5	
M24x1.5	24.0	22.5	
M26x1.5	26.0	24.5	
M30x2.0	30.0	28.0	
M36x2.0	36.0	34.0	
M42x2.0	42.0	40.0	
M45x2.0	45.0	43.0	
M52x2.0	52.0	50.0	



DIN 24° male and Mating Females

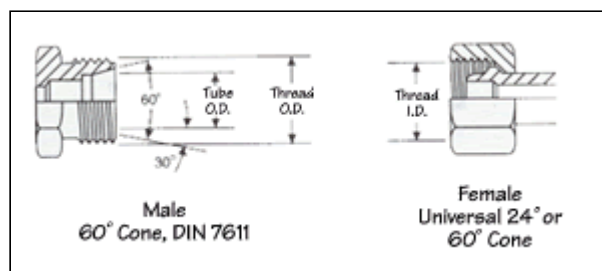
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DIN 60° Cone

The DIN 60° cone male will mate with the female universal 24° or 60° cone connector only.

The male has a 60° seat and straight metric threads. The female has a 24° and 60° universal seat and straight metric threads.

When measuring the flare angle with the seat angle gauge, use the 30° gauge. (The seat angle gauge measures the angle from the connector centerline.)



Metric Thread Size	Male Thread O.D. (mm)	Female Thread I.D.
M12x1.5	12.0	
M14x1.5	14.0	
M16x1.5	16.0	
M18x1.5	18.0	
M20x1.5	20.0	
M22x1.5	22.0	
M24x1.5	24.0	
M26x1.5	26.0	
M30x2.0	30.0	

DIN 60° Male and Mating Female

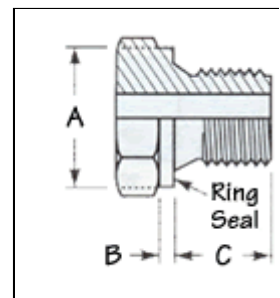
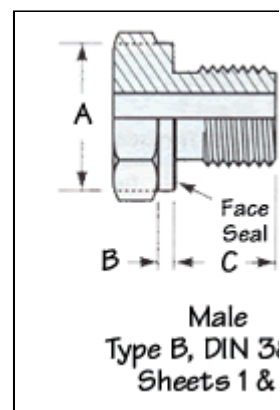
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DIN 3852 Couplings Type A & B (Parallel Threads)

The male DIN 3852 Type A & B couplings will mate with the female DIN coupling shown below.

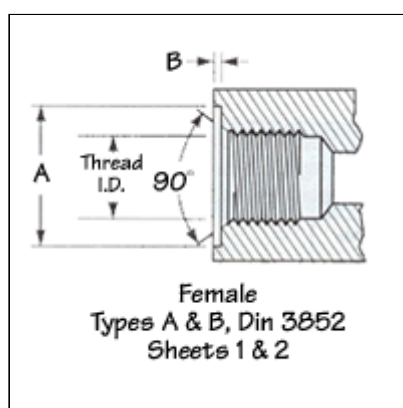
The male and female type A & B couplings have straight threads. Sheet 1 refers to straight metric threads, and sheet 2 refers to straight Whitworth threads. The seal occurs when the ring seal (Type A) or the face seal (Type B) mates with the face of the female port.

These are two series of DIN 3852 Type A & B couplings, the light (L) and the heavy (S) series.



Male
Type A, Din 3852
Sheets 1 & 2

Series	Male Metric Thread Parallel DIN 3852 Type A & B Sheet 1						Male Whitworth Thread Parallel DIN 3852 Type A & B Sheet 2			
	Tube O.D. (mm)	Metric Thread Size	Thread O.D. (mm)	A (mm)	B (mm)	C (mm)	Whitworth Thread Size	Thread O.D. (in)	A (mm)	B (mm)
L Light	6	10x1	10	14	1.5	8	1/8-28	3/8	14	1.5
	8	12x1.5	12	17	2.0	12	1/4-19	1/2	17	2.0
	10	14x1.5	14	19	2.0	12	1/4-19	1/2	19	2.0
	12	16x1.5	16	21	2.5	12	3/8-19	21/32	21	2.5
	15	18x1.5	18	23	2.5	12	1/2-14	13/16	23	2.5
	18	22x1.5	22	27	3.0	14	1/2-14	13/16	27	3.0
	22	26x1.5	26	31	3.0	16	3/4-14	11/32	31	3.0
	28	33x2	33	39	3.0	18	1-11	15/16	39	3.0
	35	42x2	42	49	3.0	20	1 1/4-11	121/32	49	3.0
	42	48x2	48	55	3.0	22	1 1/2-11	17/8	55	3.0
S Heavy	6	12x1.5	12	17	2.0	12	1/4-19	1/2	17	2.0
	8	14x1.5	14	19	2.0	12	1/4-19	1/2	19	2.0
	10	16x1.5	16	21	2.5	12	3/8-19	21/32	21	2.5
	12	18x1.5	18	23	2.5	12	3/8-19	21/32	23	2.5
	14	20x1.5	20	25	3.0	14	1/2-14	13/16	25	3.0
	16	22x1.5	22	27	3.0	14	1/2-14	13/16	27	3.0
	20	27x2	27	32	3.0	16	3/4-14	11/32	32	3.0
	25	33x2	33	39	3.0	18	1-11	15/16	39	3.0
	30	42x2	42	49	3.0	20	1 1/4-11	121/32	49	3.0
	38	48x2	48	55	3.0	22	1 1/2-11	17/8	55	3.0



Female Metric Thread Parallel DIN 3852 Type A & B Sheet 1				Whitworth Thread Size
Metric Thread Size	Thread O.D. (mm)	A (mm)	B (mm)	
10x1	8.5	15	1.0	1/8-28
12x1.5	10.5	18	1.5	1/4-19
14x1.5	12.5	20	1.5	1/4-19
16x1.5	14.5	22	2.0	3/8-19
18x1.5	16.5	24	2.0	3/8-19
20x1.5	18.5	26	2.5	21/32
22x1.5	20.5	28	2.5	21/32
24x1.5	22.5	30	3.0	13/16
26x1.5	24.5	32	3.0	13/16
27x2	26.5	34	3.0	13/16
30x2	30.5	38	3.0	1 1/2-11
33x2	33.5	42	3.0	1 1/2-11
39x2	39.5	50	3.0	1 3/4-11
42x2	42.5	54	3.0	1 3/4-11
48x2	48.5	62	3.0	2-11

12x1.5	10.5	18	1.5	1/4-11
14x1.5	12.5	20	1.5	1/4-11
16x1.5	14.5	22	1.5	3/8-11
18x1.5	16.5	24	2.0	1/2-11
22x1.5	20.5	28	2.5	1/2-11
26x1.5	24.5	32	2.5	3/4-11
33x2	31.5	40	2.5	1-11
42x2	40.5	50	2.5	1 1/4-11
48x2	46.5	56	2.5	1 1/2-11
12x1.5	10.5	18	1.5	1/4-11
14x1.5	12.5	20	1.5	1/4-11
16x1.5	14.5	22	1.5	3/8-11
18x1.5	16.5	24	2.0	3/8-11
20x1.5	18.5	26	2.0	1/2-11
22x1.5	20.5	28	2.5	1/2-11
27x2	25.5	33	2.5	3/4-11
33x2	31.5	40	2.5	1-11
42x2	40.5	50	2.5	1 1/4-11
48x2	46.5	56	2.5	1 1/2-11

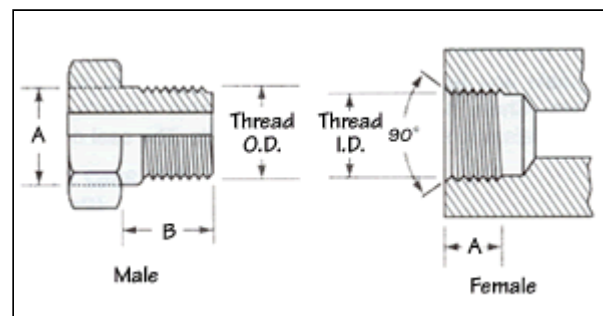
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DIN 3852 Type C Sheets 1 & 2 Metric and Whitworth Tapered Thread Connectors

The DIN 3852 Type C couplings are available with either metric or Whitworth British thread. The male will mate only with the female as shown.

The male and female couplings have tapered threads. Sheet 1 refers to tapered metric threads, and Sheet 2 refers to tapered Whitworth threads. The seal takes place on the threads.

There are three series of DIN 3852 Type C couplings: extra light (LL), light (L) and heavy (S).



Series	Male DIN 3852 Type C, Sheet 1 Metric Tapered Threads				
	Tube O.D. (mm)	Metric Thread Size	A (mm)	B (mm)	Thread O.D. (mm)
LL Extra Light	4	8x1	8.40	8	8
	5	8x1	8.40	8	8
	6	10x1	10.40	8	10
	8	10x1	10.40	8	10
L Light	6	10x1	10.40	8	10
	8	12x1.5	12.53	12	12
	10	14x1.5	14.53	12	14
	12	16x1.5	16.53	12	16
	15	18x1.5	18.53	12	18
	18	22x1.5	22.65	14	22
	6	12x1.5	12.53	12	12
	8	14x1.5	14.53	12	14

DIN 3852 Type C Sheets 1 & 2 Metric and Whitworth Tapered Thread Connectors

S Heavy	10	16x1.5	16.53	12	16
	12	18x1.5	18.53	12	18
	14	20x1.5	20.65	14	20
	16	22x1.5	22.65	14	22

Female DIN 3852 Type C, Sheet 1 Metric Tapered Threads			Female DIN 3852 Type C, Sheet 2 Whitworth Tapered Threads		
Metric Thread Size	Thread I.D. (mm)	A (mm)	Whitworth Thread Size	Thread I.D. (in)	A (mm)
8x1	6.5	5.5	1/8-28	11/32	5.5
8x1	6.5	5.5	1/8-28	11/32	5.5
10x1	8.5	5.5	1/8-28	11/32	5.5
10x1	8.5	5.5	1/8-28	11/32	5.5
10x1	8.5	5.5	1/8-28	11/32	5.5
12x1.5	10.5	8.5	1/4-19	15/32	8.5
14x1.5	12.5	8.5	1/4-19	15/32	8.5
16x1.5	14.5	8.5	3/8-19	19/32	8.?
18x1.5	16.5	8.5	1/2-14	3/4	8.?
22x1.5	20.5	10.5	1/2-14	3/4	10.5
12x1.5	10.5	8.5	1/4-19	15/32	8.5
14x1.5	12.5	8.5	1/4-19	15/32	8.5
16x1.5	14.5	8.5	3/8-19	19/32	8.5
18x1.5	16.5	8.5	3/8-19	19/32	8.5
22x1.5	20.5	10.5	1/2-14	3/4	10.5

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Metric Standpipe Assembly

A metric standpipe assembly is comprised of three components attached to a male fitting. The components are: a Standpipe, Bite Sleeve and Metric Nut. The nut is placed over the Standpipe, followed by the Bit Sleeve (see illustration below). For DIN light assemblies, a DIN light metric nut is used. For DIN heavy assemblies, a DIN heavy metric nut is used. The Bit Sleeve and Standpipe are selected on the basis of tube O.D. required.



Metric Standpipe DIN Tube O.D. (mm)	Bit Sleeve DIN Tube O.D. (mm)
6	6
8	8
10	10
12	12
15	15
16	16
18	18
20	20
22	22

**Metric Standpipe Assembly**

22	22
25	25
28	28
30	30
35	35
38	38
42	42

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