How to find the appropriate Oneway adapter for your lathe

Why you should always measure the thread of your spindles
There are many lathes on the market and they all have different thread sizes on the main spindle. To obtain the appropriate accessories (e.g. faceplates, woodturning chucks or adapters), it is vital to know the thread size of the main spindle.

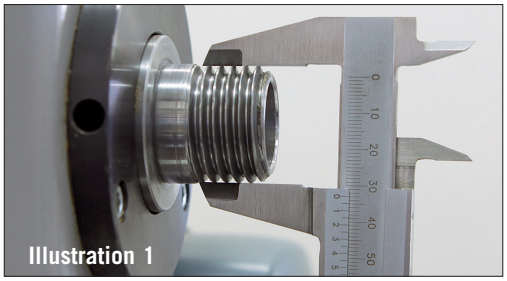


Illustration 1

Required measuring tools
A metric precision calliper with 1/10 display accuracy or a calliper with inch display. Before measuring the thread, check in the manufacturer's manual or operating instructions of your lathe whether you can obtain information on the thread from them. If necessary ask the manufacturer. Information on the model, and where appropriate the year of manufacture of the lathe will be very helpful. If no information on the thread size is available, proceed as follows:

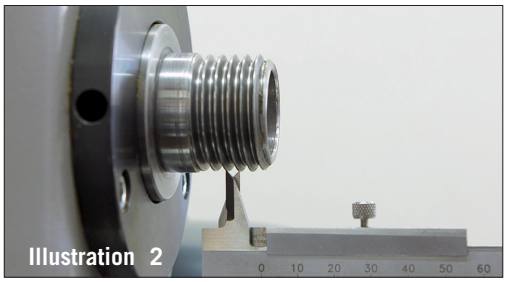


Illustration 2

1. Measuring the outer diameter of the thread
In this instance it is important to determine whether the thread is a metric or an inch thread. One inch equals 25.4 mm. A 25.0 mm thread would therefore be a metric thread (for metric thread sizes see Table 1). It is very important to measure carefully here and read the measurement off accurately. For outer thread diameters see Illustration 3, measurement A. Typical metric threads are: M18, M20, M24, M25, M30, M33, M40. If you find diameters with decimal places, the thread is an inch thread. The mm - inch conversion can be found in Table 2.

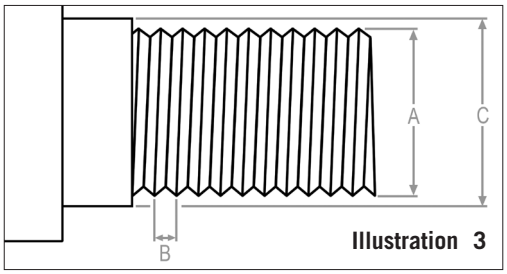
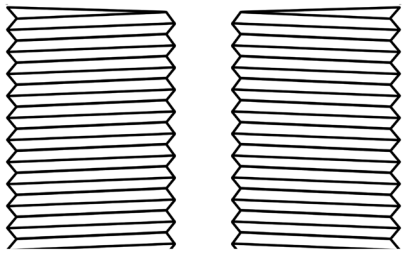


Illustration 3

2. Measuring the thread pitch
With a metric thread this is the distance between thread crests (see Illustration 2); for thread pitch see Illustration 3, measurement B.
In the case of an inch thread it is the number of thread crests (also called turns) per inch, i.e. per 25.4 mm, which is determined. This is described as tpi (threads per inch).

3. Measuring the flange
With some machines the flange can have a greater diameter than the thread itself. Measure the diameter of the flange as well (see Illustration 3, measurement C).

4. Determining the thread's direction of rotation
With a RH (right-hand) thread the thread flanks rise towards the right when viewed from above, and with a LH (left-hand) thread towards the left. It is also possible to have RH/LH threads that are cut twice.


Right-hand thread Left-hand thread

The following information enables us to process your order smoothly:

Manufacturer / Brand _____

Pitch / tpi _____

Type, possibly year of manufacture _____

Collar diameter _____

Outer diameter of thread _____

Direction of thread _____

Additional Information

Thread form or flank angle of thread turn
- UNC, UNF /NF and metric threads (also called ISO threads) have a 60° angle
- Whitworth, BSW, and BSF threads have a 55° angle

Metric or ISO Thread UNC
(Unified National Coarse Thread)

Designation e.g.: M33 x 3.5 means:
Diameter 33 mm, pitch 3.5 mm.

Designation e.g.: 1" - 8 UNC means:
Diameter 1 inch - 8 turns per inch thread length.

UNF / NF (Unified National Fine Thread)
BSW (British Standard Whitworth Coarse Thread) or Whitworth

Designation e.g.: 3/4" - 16 UNF means:
Diameter 3/4 inch - 16 turns per 1 inch thread length.

Designation e.g.: 3/4" - 10 BWS means:
Diameter 3/4 inch - 10 turns per 1 inch thread length.

BSF (British Standard Fine Thread)

Designation e.g.: 1" - 10 BSF means:
Diameter 1 inch - 10 turns per inch thread length.

Table 1: Metric thread		
Ø in mm	**Distance between thread crests in mm**	**Metric thread sizes**
18	2.5	M18 x 2,5
20	2	M20 x 2
20	1.5	M20 x 1,5
24	3	M24 x 3
25	2	M25 x 2
30	1.5	M30 x 1.5
30	3.5	M30 x 3.5
33	3.5	M33 x 3.5 DIN 800 standard on most lathes
40	6	M40 x 6 e.g. sweden

Table 2: Inch thread				
Thread diameter		**tpi or pitch in mm**		**Inch thread sizes**
Ø in mm	**Ø in inches**	**Number of threads per inch (tpi)**	**Distance between thread crests in mm**	
12.700	1/2“	20	1.27	1/2 inch x 20 tpi
19.050	3/4“	16	1.59	3/4 inch x 16 tpi UNF
19.050	3/4“	14	1.81	3/4 inch x 14 tpi BSP
19.050	3/4“	10	2.54	3/4 inch x 10 tpi BSW
22.225	7/8“	14	1.81	7/8 inch x 14 tpi NF
25.400	1“	12	2.12	1 inch x 12 tpi
25.400	1“	10	2.54	1 inch x 10 tpi BSF
25.400	1“	8	3.18	1 inch x 8 tpi Dual Thread LH/RH
25.400	1“	8	3.18	1 inch x 8 tpi UNC
28.575	1 1/8“	12	2.12	1 1/8 inch x 12 tpi UNF
28.575	1 1/8“	7	3.62	1 1/8 inch x 7 tpi BSW
28.575	1 1/8“	7	3.62	1 1/8 inch x 7 tpi UNC
31.750	1 1/4“	8	3.18	1 1/4 inch x 8 tpi UNS
38.100	1 1/2“	6	4.23	1 1/2 inch x 6 tpi BSW RH/LH
38.100	1 1/2“	8	3.18	1 1/2 inch x 8 tpi NF

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