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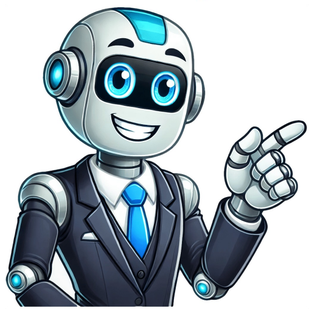

Whether you’re buying screws online or in-store, if you don’t know how to read screw callouts, you’ll probably end up getting the wrong size. Although it might seem hard to understand screw sizes, it’s actually a lot simpler than what you think. Once you figure out the meaning of each number found in screw callouts, you’ll find that reading callouts and screw size charts is a piece of cake. You also might be familiar with reading imperial screw callouts. However, you can find some screw packages that are available in metric sizes only. So, it’s important to familiarize yourself with both of them. In this article, you’ll find all the information you need to read metric screw sizes easily. We also included an easy-to-follow metric screw size chart. Let’s get started! Terms You Must Know to Read Metric Screw Size Charts If you’re used to using the imperial screw sizes, reading screw sizes in mm might be confusing to you. Metric callouts look different from imperial ones. Thus, metric screw size charts will have different info than what is provided in imperial charts. So, we’ll be starting by explaining how to read metric screw callouts first. This will help you use our metric screw size chart that is included further in the article. How to Read Metric Screw Sizes? A metric callout on a screw package usually looks like this: M6 × 1.00 × 25. So, what does this even mean? Typically, screw callouts contain three numbers whether for imperial or metric ones. Metric callouts usually contain: Screw diameter Screw pitch Screw length We’ll be explaining each definition of these to help you read our metric screw size chart. 1. Screw Diameter Unlike imperial callouts, the metric screw size callouts always start with the letter M followed by a number. This number is the screw diameter. The screw diameter or major diameter is the outside diameter of the screw. In other terms, it’s the diameter of the screw shank. Don’t get it confused with the US gauge. Just because they’re both written as the first numbers in callouts, doesn’t mean that they’re the same thing. It’s really complicated to understand the correlation between metric screw diameter and gauge. In this system, screw sizes are often referred to by a number followed by the symbol “G” or “ga” (for gauge). For instance, a #6 screw has a larger diameter than a #4 screw. It’s important to note that screw gauges may vary depending on the specific standards used in different regions or industries. 2. Screw Pitch The screw pitch is represented by the second number you see in the callout. It represents the distance between each thread on the screw in mm. You can find that the screw pitch isn’t included in imperial callouts. Instead, you’ll find the number of threads per inch (TPI). In metric screw sizes, you usually find the screw pitch represented in the second column. You can also find two pitch columns. One for coarse screws and the other for fine screws. A coarse screw is a screw with a low number of threads along the screw. While a fine screw has a high number of threads. So, of course, the pitch number will be different between the two. In our metric screw size chart, we provide the pitch for both coarse and fine threads. 3. Screw Length The screw length is the third and final number you find in metric callouts. It’s measured differently depending on the type of the screw head. For countersinking screws, their length is measured from the top of their heads to their tips. This is because they’re designed to be installed flat or flush with the surface. On the other hand, non-countersinking threads are designed so that their heads remain above the surface. So, the screw length in this case is measured from beneath the head to the tip. To understand how to choose the right screw length for your project, check out this video: Example: Reading Metric Machine Screw Sizes To make sure that you understand how to read metric callouts on screw packages, let’s try to read this metric machine screw callout: M3 × 1.25 × 30 This callout means: The first number after the letter M is the screw diameter which equals 3 mm The second number is the screw’s pitch which equals 1.25 mm The third and final number is the screw’s length which equals 30 mm Since we also talked about imperial screw callouts, let’s read this screw thread callout as well: #6 x 1 x 1/2″ We have here: The first number represents the US gauge number, which represents the diameter of the screw shaft. It’s essentially a measurement of the thickness of the screw’s body. The second number represents the number of threads per inch which is 1 The third and final number is the screw’s length which equals ½ inch Pro-tip, you might find some imperial callouts that contain only two numbers. These two numbers are the gauge number and screw length. What about the thread per inch number? In this case, it means that the screw has the standard number of threads. The Only Metric Screw Size Chart You’ll Need In our metric screw size chart, you’ll find all the information you need to buy the right size of screws for your project. Our chart includes: Screw diameter Screw pitch for both coarse and fine screws Tap drill for both coarse and fine screws Finally, clearance drill Metric Screw Size Metric Screw Diameter Screw Pitch (Coarse) Tap Drill (Coarse) Screw Pitch (Fine) Tap Drill (Fine) Clearance Drill M1 1 0.25 0.75 0.2 0.8 1.2 M1.2 1.2 0.25 0.95 0.2 1 1.4 M1.4 1.4 0.3 1.1 0.2 1.2 2 M1.6 1.6 0.35 1.25 0.2 1.4 1.8 M1.8 1.8 0.35 1.45 0.2 1.6 2 M2 2 0.4 1.6 0.25 1.75 2.4 M2.5 2.5 0.45 2 0.35 2.1 2.9 M3 3 0.5 2.5 0.35 2.6 3.4 M3.5 3.5 0.6 2.9 0.35 3.1 3.9 M4 4 0.7 3.3 0.5 3.5 4.5 M5 5 0.8 4.2 0.5 4.5 5.5 M6 6 1 5 0.75 5.2 6.6 M7 7 1 6 0.75 6.2 8 M8 8 1.25 6.8 0.75 or 1 7.2 9 M9 9 1.25 7.75 0.75 or 1 8.25 or 8 M10 10 1.5 8.5 1 or 1.25 8 or 8.75 12 M11 11 1.5 9.5 1 or 1.25 10 or 9.75 M12 12 1.75 10.2 1.25 or 1.5 10.75 or 10.5 14 M14 14 2 12 1.5 12.5 16 M16 16 2 14 1.5 14.5 18 M17 17 1 or 1.5 16 or 15.5 M18 18 2.5 15.5 1. 5 or 2 16.5 or 16 20 M19 19 1 18 M20 20 2.5 17.5 1.5 18.5 or 18 22 M24 24 3 21 1.5 or 2 22.5 or 22 26 M25 25 1.5 or 2 23.5 or 23 M27 27 3 24 2 25 30 M28 28 1.5 26.5 M28 28 2 26 M30 30 3.5 26.5 2 or 3 28 or 27 33 M32 32 1. 5 or 2 30.5 or 30 M33 33 3.5 29.5 2 31 36 M35 35 2 or 3 33 or 32 M36 36 4 32 2 or 3 34 or 33 39 M38 38 1.5 or 2 36.5 or 36 M39 39 4 35 2 or 3 37 or 36 42 M40 40 1.5 or 3 38.5 or 37 M42 42 4.5 37.5 3 or 4 39 or 38 45 M45 45 4.5 40.5 3 or 4 42 or 41 48 M48 48 5 43 3 or 4 45 or 44 52 M50 50 2 or 3 48 or 47 M52 52 5 47 3 or 4 49 or 48 56 M56 56 5.5 50.5 2 or 4 54 or 52 62 M60 60 5.5 54.5 4 56 65 FAQs Here are some common questions people tend to ask about metric screw size charts: 1. What Does the Letter “M” Mean on Screw Packages? The letter “M” on screw packages refers to the metric system (ISO). So, when you see it at the beginning of a callout, it means that the measurements are in mm. 2. What Is the Shank of a Screw? The shank is the part of the screw that lies beneath the screw’s head. It can be threaded all the way to the tip, partially-threaded, or not threaded at all. 3. What Is the Difference Between Metric Machine Screw Sizes and Wood Screw Sizes? There isn’t a noticeable difference between machine and wood screw sizes. However, the difference is in the physical characteristics. You can usually spot these with your eye, but you’ll definitely know when you try to fit one with another (we’ve all been there!). Machine screws always have an all-threaded shank with finer threads. Despite being smaller, they’re much stronger than other types of screws. To Sum Up Here you have it, our metric screw size chart that includes screw sizes in mm up to M60. As you can see metric callouts and metric screw size charts are much easier to read and understand than imperial. You only need to find the values for the screw’s diameter, pitch, and length. Now, you can go and purchase your screw package with all confidence. Good luck! Machine screws are used in a wide range of applications. There’s no denying that there are countless types of machine screws used for hundreds of applications. From construction and manufacturing to industrial and production environments, anything that involves metal parts needs a machine screw to fasten them together. This begs the question: Is there a definitive machine screw size chart that can help size the right machine screw for my project? The simple answer is yes, but only if you know which chart to look at. Thankfully, I’ve compiled all the data you need in one comprehensive size chart. I’ve also included a handy guide to help you read and understand any machine screw chart. Let’s get started! How to Read a Machine Screw Size Chart The measurements of machine screws follow the Unified Thread Standard (UTS) and the ISO metric screw thread system. The metric system is used by pretty much the whole world. However, if you live in the United States, this doesn’t apply to you. American screws follow the standard machine screw sizes of ASME/ANSI, listed under the Unified Thread Standard. All measurements in the UTS system are in inches. For the rest of the world, you’ll have to follow the ISO metric system, which is measured by millimeters. Both systems ultimately convey the same info, but they’re fundamentally different in how they’re structured. Let’s slowly break it down. How to Read a UTS Screw Chart (Imperial System) UTS machine screw charts contain three things: Screw gauge Threads per inch Stress Area Screw Gauge The screw gauge stands for the diameter of the outside thread. It’s also called the “major diameter.” The smallest machine screw gauge is #0, although you could find gauge #00 and #000 for certain projects. All machine screws with an outside diameter under ¼” are labeled from gauge #0 to gauge #12. Afterward, the gauge is specified according to the fractional diameter of the screw. Threads Per Inch (TPI) Threads per inch (TPI) is the number of threads per one-inch section of the screw. Fine screws typically have more threads per inch than coarse screws. Stress Area The stress area of a machine screw is the weakest point of the bolt. In the UTS system, the stress area in coarse screws is lower than the stress area in fine screws. Knowing the stress area of a machine screw helps us determine whether it’s suitable for certain applications or not. For example, if you’re using a screw for clamping, a coarse screw with a high stress area will be a better choice than a fine screw in the same gauge. 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The second number is the TPI. 48 threads per inch indicate that the screws are coarse, not fine. Finally, the third number indicates the screw length. This means the screws are 0.5 inches long. Reading International Screws Callouts If the first letter of the machine screws callout begins with M, this means you’re dealing with international screws. For example, if you come across a box of machine screws with this label: M10 x 1.5 x 75 The first number after the letter M indicates the screw’s diameter. The second number is the screw pitch. The final number is the screw length. Remember, the measurements here are expressed in millimeters. You’ll need to convert the numbers to inches before you proceed. Machine Screw Size Charts Here’s our in-depth chart using the UTS system. We’ve also included a metric machine screw size chart for international machine screws. 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