4 Inch Pipe Thread Dimensions

National pipe thread

"NPT Thread Dimensions". AmesWeb. Archived from the original on 1 June 2018. ASME B1.20.-1983 Pipe Threads, General Purpose, Inch NPT Taper Pipe Threads

American National Standard Pipe Thread standards, often called national pipe thread standards for short, are United States national technical standards for screw threads used on threaded pipes and pipe fittings. They include both tapered and straight thread series for various purposes, including rigidity, pressure-tight sealing, or both. The types are named with a full name and an abbreviation, such as NPT, NPS, NPTF, or NPSC.

MIP is an abbreviation for male iron pipe, and FIP is an abbreviation for female iron pipe.

Outside North America, some US pipe thread sizes are widely used, as well as many British Standard Pipe threads and ISO 7–1, 7–2, 228–1, and 228-2 threads.

Unified Thread Standard

other threaded fasteners used in these countries. It has the same 60° profile as the ISO metric screw thread, but the characteristic dimensions of each

The Unified Thread Standard (UTS) defines a standard thread form and series—along with allowances, tolerances, and designations—for screw threads commonly used in the United States and Canada. It is the main standard for bolts, nuts, and a wide variety of other threaded fasteners used in these countries. It has the same 60° profile as the ISO metric screw thread, but the characteristic dimensions of each UTS thread (outer diameter and pitch) were chosen as an inch fraction rather than a millimeter value. The UTS is currently controlled by ASME/ANSI in the United States.

Nominal Pipe Size

"2-inch diameter pipe, Schedule 40"). NPS is often incorrectly called National Pipe Size, due to confusion with the American standard for pipe threads,

Nominal Pipe Size (NPS) is a North American set of standard sizes for pipes used for high or low pressures and temperatures. "Nominal" refers to pipe in non-specific terms and identifies the diameter of the hole with a non-dimensional number (for example – 2-inch nominal steel pipe" consists of many varieties of steel pipe with the only criterion being a 2.375-inch (60.3 mm) outside diameter). Specific pipe is identified by pipe diameter and another non-dimensional number for wall thickness referred to as the Schedule (Sched. or Sch., for example – "2-inch diameter pipe, Schedule 40"). NPS is often incorrectly called National Pipe Size, due to confusion with the American standard for pipe threads, "national pipe straight", which also abbreviates as "NPS". The European and international designation equivalent to NPS is DN (diamètre nominal/nominal diameter/Nennweite), in which sizes are measured in millimetres, see ISO 6708. The term NB (nominal bore) is also frequently used interchangeably with DN.

In March 1927 the American Standards Association authorized a committee to standardize the dimensions of wrought steel and wrought iron pipe and tubing. At that time only a small selection of wall thicknesses were in use: standard weight (STD), extra-strong (XS), and double extra-strong (XXS), based on the iron pipe size (IPS) system of the day. However these three sizes did not fit all applications. Also, in 1939, it was hoped that the designations of STD, XS, and XXS would be phased out by schedule numbers, however those original terms are still in common use today (although sometimes referred to as standard, extra-heavy (XH), and double extra-heavy (XXH), respectively). Since the original schedules were created, there have been

many revisions and additions to the tables of pipe sizes based on industry use and on standards from API, ASTM, and others.

Stainless steel pipes, which were coming into more common use in the mid 20th century, permitted the use of thinner pipe walls with much less risk of failure due to corrosion. By 1949 thinner schedules 5S and 10S, which were based on the pressure requirements modified to the nearest BWG number, had been created, and other "S" sizes followed later. Due to their thin walls, the smaller "S" sizes can not be threaded together according to ASME code, but must be fusion welded, brazed, roll grooved, or joined with press fittings.

British Standard Pipe

Standard Pipe Parallel Thread Dimensions British Standard Pipe Taper Thread Dimensions Archived 2017-09-27 at the Wayback Machine BSP Thread Charts and Diagrams

British Standard Pipe (BSP) is a set of technical standards for screw threads that has been adopted internationally for interconnecting and sealing pipes and fittings by mating an external (male) thread with an internal (female) thread. It has been adopted as standard in plumbing and pipe fitting, except in North America, where NPT and related threads are used.

British Standard Whitworth

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British Standard Whitworth (BSW) is a screw thread standard that uses imperial (inch-based) units. It was devised and specified by British engineer Joseph Whitworth in 1841, making it the world’s first national screw thread standard. It became widely adopted across the United Kingdom and its former colonies, influencing engineering practices globally. BSW also laid the foundation for several related thread standards, including British Standard Fine (BSF),British Standard Pipe (BSP), British Standard Conduit (BSCon) and British Standard Copper (BSCopper) threads. Although largely superseded by metric standards in modern engineering, BSW remains in use in restoration, vintage machinery, and certain legacy industries.

ISO metric screw thread

pitch P for ISO metric screw threads. ISO 262 specifies a shorter list of thread dimensions – a subset of ISO 261. The thread values are derived from rounded

The ISO metric screw thread is the most commonly used type of general-purpose screw thread worldwide. They were one of the first international standards agreed when the International Organization for Standardization (ISO) was set up in 1947.

The "M" designation for metric screws indicates the nominal outer diameter of the screw thread, in millimetres. This is also referred to as the "major" diameter in the information below. It indicates the diameter of smooth-walled hole that an externally threaded component (e.g. on a bolt) will pass through easily to connect to an internally threaded component (e.g. a nut) on the other side. For example, an M6 screw has a nominal outer diameter of 6 millimetres and will therefore be a well-located, co-axial fit in a hole drilled to 6 mm diameter.

Pipe (fluid conveyance)

spectrographically analyzed. Pipe sizes can be confusing because the terminology may relate to historical dimensions. For example, a half-inch iron pipe does not have

A pipe is a tubular section or hollow cylinder, usually but not necessarily of circular cross-section, used mainly to convey substances which can flow — liquids and gases (fluids), slurries, powders and masses of small solids. It can also be used for structural applications; a hollow pipe is far stiffer per unit weight than the solid members.

In common usage the words pipe and tube are usually interchangeable, but in industry and engineering, the terms are uniquely defined. Depending on the applicable standard to which it is manufactured, pipe is generally specified by a nominal diameter with a constant outside diameter (OD) and a schedule that defines the thickness. Tube is most often specified by the OD and wall thickness, but may be specified by any two of OD, inside diameter (ID), and wall thickness. Pipe is generally manufactured to one of several international and national industrial standards. While similar standards exist for specific industry application tubing, tube is often made to custom sizes and a broader range of diameters and tolerances. Many industrial and government standards exist for the production of pipe and tubing. The term "tube" is also commonly applied to non-cylindrical sections, i.e., square or rectangular tubing. In general, "pipe" is the more common term in most of the world, whereas "tube" is more widely used in the United States.

Both "pipe" and "tube" imply a level of rigidity and permanence, whereas a hose (or hosepipe) is usually portable and flexible. Pipe assemblies are almost always constructed with the use of fittings such as elbows, tees, and so on, while tube may be formed or bent into custom configurations. For materials that are inflexible, cannot be formed, or where construction is governed by codes or standards, tube assemblies are also constructed with the use of tube fittings.

List of thread standards

producing threaded components. ISO metric screw thread "History of standardization" section of the screw thread article National pipe thread Degarmo, Black

A screw thread, often shortened to thread, is a helical structure used to convert between rotational and linear movement or force. A screw thread is an inclined plane wrapped around a cylinder or cone in the form of a helix, with the former being called a straight thread and the latter called a tapered thread. More screw threads are produced each year than any other machine element.

Threads are generally produced according to one of the many standards of thread systems. Standards Development Organizations such as the American National Standards Institute, American Society of Mechanical Engineers, SAE International, International Organization for Standardization, Deutsches Institut für Normung (German Institute for Standardization), British Association and others produce these standards for manufacturers to follow when producing threaded components.

Gas meter

profile, which has a 55° thread angle. Sizes are specified by nominal diameter in inches and threads per inch (TPI). National Pipe Thread (NPT) A U.S. standard

A gas meter is a specialized flow meter, used to measure the volume of fuel gases such as natural gas and liquefied petroleum gas. Gas meters are used at residential, commercial, and industrial buildings that consume fuel gas supplied by a gas utility. Gases are more difficult to measure than liquids, because measured volumes are highly affected by temperature and pressure. Gas meters measure a defined volume, regardless of the pressurized quantity or quality of the gas flowing through the meter. Temperature, pressure, and heating value compensation must be made to measure actual amount and value of gas moving through a meter.

Several different designs of gas meters are in common use, depending on the volumetric flow rate of gas to be measured, the range of flows anticipated, the type of gas being measured, and other factors.

Gas meters that exist in colder climates in buildings built prior to the 1970s were typically located inside the home, typically in the basement or garage. Since then, the vast majority are now placed outside though there are a few exceptions especially in older cities.

Real versus nominal value (philosophy)

A "3?4-inch pipe" in the Nominal Pipe Size system has no dimensions that are exactly 0.75 inches. A screw thread has a number of dimensions required

The distinction between real value and nominal value occurs in many fields. From a philosophical viewpoint, nominal value represents an accepted condition, which is a goal or an approximation, as opposed to the real value, which is always present.