# 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.

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.

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...

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...

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.

British Standard Whitworth

*British Standard Whitworth (BSW) is a screw thread standard that uses imperial (inch-based) units. It was devised and specified by British engineer Joseph*

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.

Pipe bomb

*tight threading can also bleed gas pressure through the threads faster than the chemical reaction pressure can rise. They can also fail if the pipe is fully*

A pipe bomb is an improvised explosive device (IED) that uses a tightly sealed section of pipe filled with an explosive material. The containment provided by the pipe means that simple low explosives can be used to produce a relatively large explosion due to the containment causing increased pressure. The fragmentation of the pipe itself creates potentially lethal shrapnel.

Premature detonation is a hazard of attempting to construct any homemade bomb. The materials and methods used with pipe bombs often result in unintentional detonation, usually resulting in serious injury or death to the assembler.

In many countries, the manufacture or possession of a pipe bomb is a serious crime, regardless of its intended use.

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.

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...