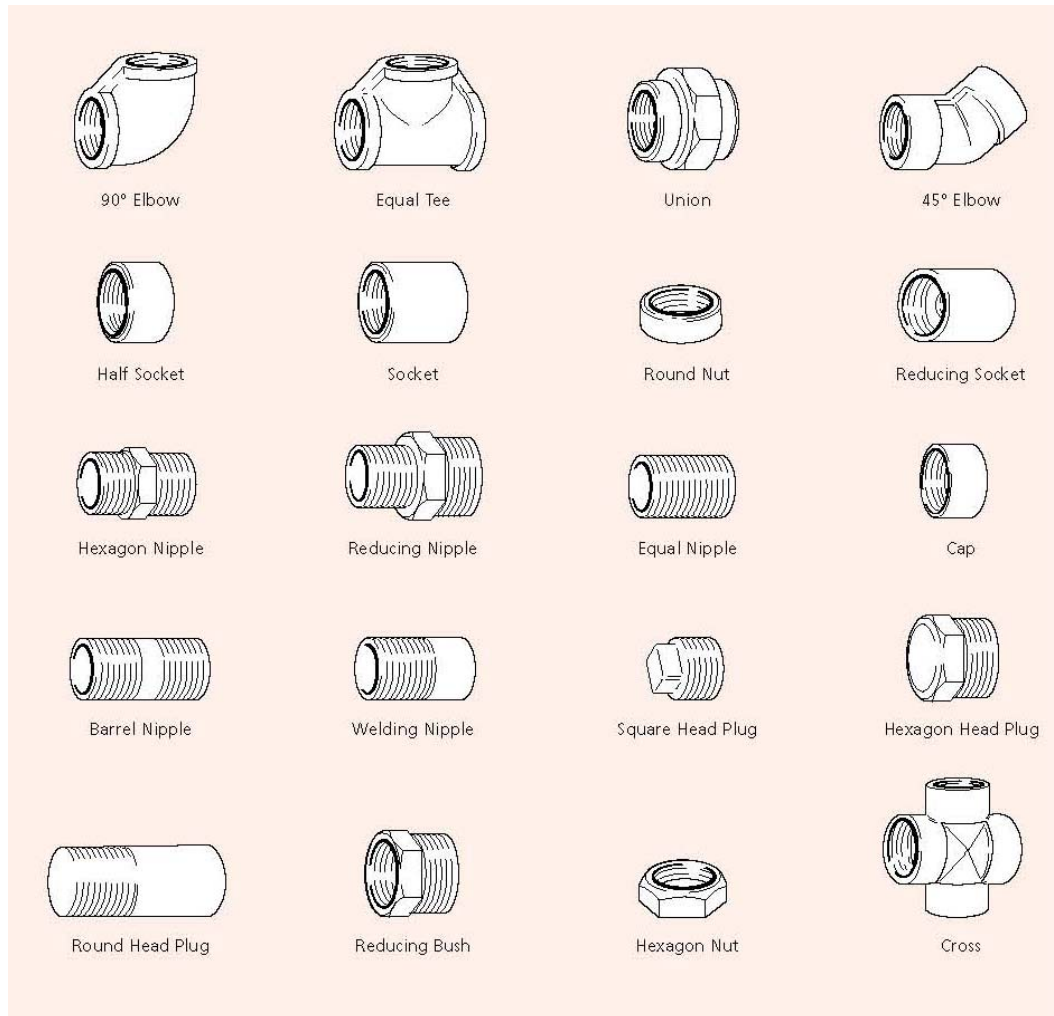


# Stainless Steel Low Pressure BSP Fittings Guide



## 1. What is a Low Pressure BSP Fitting?

- ◆ BSP fittings are a family of fittings used to connect up threaded pipe and equipment.
- ◆ They are manufactured from pipe, bar, hollow bar, castings or forgings.
- ◆ The pipe to be threaded must have a wall thickness of Schedule 40S minimum.
- ◆ The fittings are used in non-critical, low pressure applications where welding is not possible or required. They therefore provide a relatively low cost method of connection.
- ◆ BSP fittings are usually fitted with a sealant (paste or tape such as PTFE) and are considered to be permanent pipe-work.
- ◆ Low Pressure BSP Fittings are rated at 150lb and are made to wrought iron specification BS1740.

- ◆ BSP fittings are made only in type 316.
- ◆ They are provided with a Certificate of Conformity only, and not a full Test Certificate.
- ◆ Sizes ½ to 3 inch are the most commonly used and thus the most readily available.

## 2. What is the thread form?


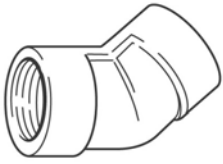
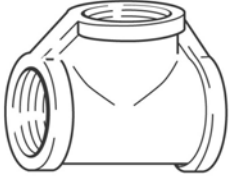
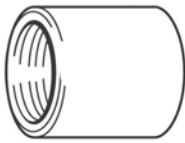

External MALE threads are tapered and Internal FEMALE threads are parallel. The threads are cut to BS21: Part 1: 1985 and are called Whitworth Threads. *See Section 4.*



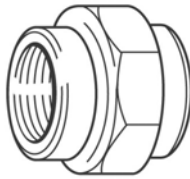

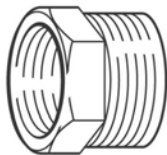
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### 3. For what is each fitting used?

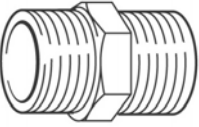
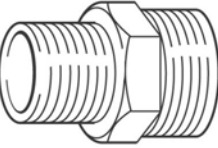
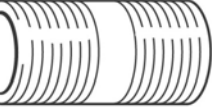
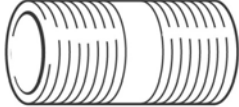
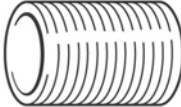
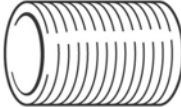
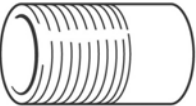
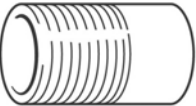
Fitting	Use / Notes
 <p>90° Elbow</p>	<p>Enables the pipe run to be turned through a right angle. Female thread both ends</p>
 <p>45° Elbow</p>	<p>Enables the pipe run to be turned through 45 degrees. Female thread both ends</p>
 <p>Equal Tee</p>	<p>Allows the connection of a branch at right angles from the main pipe run. Female thread at all three connections.</p>
 <p>Socket</p>	<p>Used to connect two pipes or fittings that have male threads. Female thread both ends.</p>
 <p>Half Socket</p>	<p>Used to connect two pipes or fittings that have male threads. Used when there is a confined space Female thread both ends.</p>



Fitting	Use / Notes
 <p>Reducing Socket</p>	<p>Used to connect two different sizes of pipe or fittings that have male threads. Female threads both ends</p>
 <p>Cap</p>	<p>Used to terminate a male threaded pipe run. Female threaded.</p>
 <p>Union</p>	<p>Connects male threaded pipe or components. Used when easy or regular access is required e.g. for cleaning. Female thread both ends.</p>
 <p>Hexagon Nut</p>	<p>Used to fix male threaded fittings. Female threaded.</p>
 <p>Reducing Bush</p>	<p>Connects a larger female threaded component to a smaller male threaded component. Male thread at large end and Female thread at small end.</p>

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Fitting	Use / Notes
 <p>Hexagon Nipple</p>	Used to connect two female threaded components. Male thread both ends.
 <p>Hexagon Reducing Nipple</p>	Connects two female threaded components of different sizes. Male thread both ends.
 <p>Reducing Nipple</p>	Used to connect two female threaded components of the same size. Male (taper) thread both ends.
 <p>Barrel Nipple</p>	Used to connect two female threaded components of the same size. Male (taper) thread both ends.
 <p>Parallel or Equal Nipple</p>	The only BSP fitting to have a <u>Male Parallel</u> thread. Used to connect female threaded components together
 <p>Equal Nipple</p>	The only BSP fitting to have a <u>Male Parallel</u> thread. Used to connect female threaded components together
 <p>Spigot or Welding Nipple</p>	Weld prepared at one end and Male thread at the other. Used to weld onto equipment that is to be connected to a female threaded component.
 <p>Welding Nipple</p>	Weld prepared at one end and Male thread at the other. Used to weld onto equipment that is to be connected to a female threaded component.

Fitting	Use / Notes
Close Taper Nipple	Used to connect two female threaded components. No land between the threads so shorter than a barrel nipple and thus used where space is restricted. Male thread both ends.
 <p>Hexagon Head Plug</p>	Used to blank off female threaded outlet. Cannot be used to blank off a pipe directly as pipes only have male threads. Male threaded.
 <p>Square Head Plug</p>	Used to blank off female threaded outlet. Cannot be used to blank off a pipe directly as pipes only have male threads. Male threaded.
90 Degree Bend	This has a larger radius than a 90 Degree Elbow and is again used to turn the pipe run through a right angle. Female thread both ends.
Hose Nipple	Used to connect a hose to the system. Male thread one end and hose serrations at the other.

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#### 4. Whitworth Threads / British Standard Pipe Thread

Nominal size of outlet		Min O/D	Min O/D of body behind external thread	Min I/D of body behind internal thread	No. of threads per inch
in	mm	mm	mm	mm	
1/8	6	15.0	9.8	8.6	28
1/4	8	18.5	13.3	11.4	19
3/8	10	22.0	16.8	15.0	19
1/2	15	27.0	21.1	18.6	14
3/4	20	32.5	26.6	24.1	14
1	25	39.5	33.4	30.3	11
1 1/4	32	49.0	42.1	39.0	11
1 1/2	40	56.0	48.0	44.8	11
2	50	68.0	59.8	56.7	11
2 1/2	65	84.0	75.4	72.2	11
3	80	98.0	88.1	84.9	11
4	100	124.0	113.3	110.1	11
5	125	151.0	138.7	135.5	11
6	150	178.0	164.1	160.9	11

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