FLANGES

Gestión de Compras manufactures and supplies flanges according to standards ANSI, BS, DIN, JIS and ISO as well as according to customer specifications.

PRODUCT:

Flanges are a pipe fitting which function is to join two pieces in a piping system, and easily separate them at a particular time, allowing be disassembled without destructive operations. By function and utility, the flanges are present in many sectors and areas such as construction and industry.

STANDARD FLANGE CLASSIFICATION:

It’s possible to produce standard flanges as ASA/ANSI/ASME (USA), PN/DIN (European), BS10 (British/Australian), and JIS/KS (Japanese/Korean). And usually these standards are not interchangeable.

PRESSURE CLASS CLASSIFICATION:

Many of the flanges in each standard are divided into "pressure classes", depending on the different rates of pressure that are able to endure. The most common flanges pressure classes are #150, #300, #600, #900, #1500, #2500 and #3000 according to ASME designation. To other standards, as DIN, pressure classes are defined by the acronym PN, as for example, PN10, PN16, PN20, PN25, PN40, PN50, PN100, PN150, PN250 or PN420. Flanges from different pressure classes are not usually interchangeable.
DESIGN CLASSIFICATION:

There is a wide variety of designs, sizes, materials and standards in relation to the flanges. But the most general classification is basis on design.

- **Blind Flanges:** They are round plates with no center hold. The use is to close the ends of pipes, valves or pressure vessel equipments. These flanges are available for standard pipes in all sizes at higher pressure ratings than other flange types.

- **Lap joint flanges:** This type of flanges can rotate around the pipe to allow an easy alignment and assembly of bolt holes even after the welds have been completed. These flanges are used in systems that require frequent disassembly of the flanges and pipe.

- **Slip-on flanges:** Ideal for lower pressure applications. They are designed to slide over the end of piping and then be welded in place. They provide easy and low cost installation.

- **Socket weld flanges:** This group is typically used on smaller sizes of high pressure pipes. These flanges are attached by inserting the pipe into the socket end and applying fillet weld around the top.

- **Threaded flanges:** They are special types of pipe flange that can be fitted to the pipe without welding. This group is best used for small pipes and low pressures.
- **Welding neck flanges:** This group has a long tapered hub and is used for high pressure applications in a wide range of temperatures. The tapered hub transfers stress from the flange to the pipe itself and provides strength reinforcement that counteracts dishing.

- **Orifice flanges:** They are used in place of standard flanges to allow an orifice meter to be installed on the flange. The orifice flanges are used to measure volumes in liquids or gases.

- **Reducing flanges:** This group is used in place of standard flanges to allow for a change in pipe size and they are considered an economical means to make a pipe size transition. Welding neck, slip-on, and threaded flanges can be reducers.

**FLANGE FACE CLASSIFICATION:**

Another important parameter to define a flange is the flange faces. Exist five principal types of flange faces who its possible to see below:

- **Flat Face (FF):** The Flat Face flange has a gasket surface in the same plane as the bolting circle face. Applications using flat face flanges are frequently those in which the mating flange or flanged fitting is made from a casting.

- **Raised Face (RF):** The Raised Face flange is the most common type used in process plant applications, and is easily to identify. It is referred to as a raised face because the gasket surfaces are raised above the bolting circle face. This face type allows the use of a wide combination of gasket designs, including flat ring sheet types and metallic composites such as spiral wound and double jacketed types.
• **Ring-Type Joint (RTJ):** They have grooves cut into their faces which steel ring gaskets. The flanges seal when tightened bolts compress the gasket between the flanges into the grooves, deforming the gasket to make a metal to metal seal.

• **Tongue-and-Groove (T&G):** The Tongue and Groove faces of this flanges must be matched. One flange face has a raised ring (Tongue) machined onto the flange face while the mating flange has a matching depression (Groove) machined into it's face.

• **Male-and-Female (M&F):** With this type the flanges also must be matched. One flange face has an area that extends beyond the normal flange face (Male). The other flange or mating flange has a matching depression (Female) machined into it's face.

**PRODUCTION:**

*Gestión de Compras* manufactures and supplies flanges according to standards ANSI, BS, DIN, JIS and ISO. We can also manufacture products according to clients’ drawings.

The most common process to produce flanges is by forging.
The typical production process to make flanges consist of:

- Cutting
- Heating
- Forging stamping
- Heat treatment
  - Normalized
  - Solution annealing
  - Tempering
- Machining and drilling
- Washing and final inspection

**MATERIALS:**

The most common materials used to produce flanges are:

- Carbon Steel (ASTM A105, Q235, 20Mn)
- Stainless Steel (ASTM A182 F304/304L, F316/316L, F321)
- Alloy Steel (ASTM A182 F1, F2, F5/A, F6/A, F9, F11, F12, F22, F91)
- Aluminum (1100, 2014, 3003, 5083, 5086, 6061, 7075)
- Inconel (600, 601, 625, 718)
- Copper.
- Titanium.

**STANDARD AND CERTIFICATES:**

We have the means to ensure our products comply the general regulation and the specific certificated regulations in manufacturing products that requires them.

- ISO 9001 and ISO 14001.
- EN 1092, BS 3293, etc.
- DIN 2527, DIN 2576, DIN 2673, DIN 86044, etc.
- ASME B16.5, ASME B16.47
- JIS B2220
CONTACT:

In Gestión de Compras work with a wide range of customers from different sectors but have in common the search for products that suit your needs at the best Price and the guaranteed maximum quality. Check with us about any product. We have a qualified staff who will advise you.

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