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Chemical Industry Standard
of the People's Republic of China

HG

HG/T 20612-2009

Replacing HG 20612-1997

Metallic Ring Joint Gaskets for use with Steel Pipe

Flanges

(PN designated)

钢制管法兰用金属环形垫

(PN 系列)

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1. Scope

This standard specifies the type, dimension, technical requirements, labeling and marking of metallic ring joint gaskets for steel pipe flanges (PN designated).

This standard is applicable to metallic ring joint gaskets for steel pipe flanges specified in HG/T 20592 whose nominal pressure is PN63~PN160.

2. Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this national standard. For dated reference, subsequent amendments (excluding amending error in the text) to, or revisions of, any of these publications do not apply. However, parties to agreement based on this standard are encouraged to research whether the latest editions of these references are applied or not. For undated references, the latest edition of the normative document is applicable to this national standard.

“Permissible Tolerances for Chemical Composition of Steel Products” GB/T 222

“Quality Carbon Structural Steels” GB/T 699

“Stainless Steel Bars” GB/T 1220

“Roughness Comparison Specimens-Ground, Turned, Bored, Milled, Shaped and Planed” GB/T 6060.2

“Technical Requirements for Magnetic Iron Bars” GB/T 6983

“Steel Pipe Flanges (PN designated)” HG/T 20592

“Specification for Selection of Steel Pipe Flanges, Gaskets and Bolting (PN designated)” HG/T 20614

“Carbon and Low-alloy Steel Forgings for Pressure Vessels” JB 4726

“Stainless Steel Forgings for Pressure Vessels” JB 4728

3. General Provisions

3.0.1 Type

According to the section forms, the ring joint flanges for metallic ring joint gaskets can be divided into the following two types: elliptic type and octagonal type, see Figure 3.0.1.

Table 5.0.2 Dimension tolerance of Metallic Ring Joint Gaskets (mm)

Item	Dimension tolerance	Item	Dimension tolerance
P	± 0.18	C	± 0.20
A	± 0.20	r	± 0.5
B or H	± 0.50	23°	$\pm 0.5^{\circ}$

5.0.3 Manufacture

1 Generally, the metallic ring joint gaskets are manufactured integrally with steel bars, seamless steel tubes and forgings, and if other blank is to be adopted, approval shall be got from users.

2 Pony-dimension ring joint gaskets can be manufactured directly with steel bars and seamless steel tube through mechanical processing, while for the larger-dimension air rings, they shall be made through thermally treating and mechanically processing forgings.

3 As for the metallic ring joint gaskets which are made up of readily-rusting materials (pure iron, Grade 10 steel, 1Cr5Mo), their surface shall be coated with antirust after inspection. Anti-corrosive treatment shall be carried out for stainless steel ring joint gaskets according to users' requirements.

5.0.4 Inspection**1 Appearance and dimension inspection**

The appearance of ring joint gaskets shall be inspected visually before leaving the factory. Its surface roughness may be compared with that of the standard sample block with visual method (GB/T 6060.2). While for its pitch diameter, ring width, ring height, octagonal gasket angle and flat width, they shall be inspected with special measuring device in accordance with the provisions of Table 5.0.2 of this standard.

2 Material inspection

The chemical composition of metallic ring joint gaskets shall meet the provisions of Table 3.0.3 of this standard and those of the relevant standards. The allowable deviation between the values from product analysis and specified values of the standard shall meet the provisions of GB/T 222.

3 Hardness inspections:

1) The blank hardness shall be inspected randomly with the Brinell hardness method and also meet the provisions of Table 3.0.3 of this standard.

2) The hardness of the product shall be inspected randomly with the Rockwell Hardness method. Inspect two sections symmetrically below R23 and four sections above R24; their average value shall meet the provisions of Table 3.0.3 of this standard.

5.0.5 Performance test and method

The performance test and method of metallic ring joint gaskets shall meet the relevant provisions specified by users.

6. Inspection

6.0.1 The material, dimension, appearance and hardness of gaskets shall be compliant to the provisions of this standard.

6.0.2 Other inspection requirements may be determined through negotiating with the producers at ordering.

7. Labeling

7.0.1 Labeling and illustration

1 The gasket shall be labeled according to the following provisions:

- 1) Standard name;
- 2) Gasket type;
- 3) Nominal dimension (DN);
- 4) Nominal pressure (PN);
- 5) Material marking (according to the provisions of Table 3.0.3 of this standard).

2 Illustration:

As for the metallic ring joint gaskets (elliptic type) for steel pipe flanges whose nominal dimension is DN100, nominal pressure is PN63, the used material is 0Cr18Ni9, it can be marked as:

HG/T 20612 Elliptic gasket 100-63 304

7.0.2 Marking

A permanent marking (e.g.: steel seal) shall be made on the lateral surface of the metallic ring joint gaskets. The marking contents are as follows:

- 1 Name or trademark of the producer;
- 2 Standard No.;
- 3 Nominal dimension (DN);
- 4 Nominal pressure (PN);
- 5 Material marking (according to the provisions of Table 3.0.3 of this standard)

_____ **END** _____

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Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

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