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HG

Professional Standard of the People's Republic of China

HG/T 20592~20635-2009

Replace HG 20592~20605-1997

钢制管法兰、垫片、紧固件

Steel Pipe Flanges, Gasket and Bolting

Issued on Feb 05, 2009

Implemented on Jul 01, 2009

**Issued by the Ministry of Industry and Information Technology of the People's Republic of
China**

**Ministry of Industry and Information Technology of
the People's Republic of China**

NOTICE

No.27 GONGKE [2009]

89 Chemical industry standards (Standard number, name, main contents and implementation date see annex) such as *Technical specifications of steel vessel with mechanical agitating equipment*, etc are approved by Ministry of Industry and Information Technology of P.R. China, hereby are issued.

Above chemical industry standards are published by CIP, engineering construction standards are published by China Plan Publishing Company.

Annex: 19 chemical and engineering construction standards number, name and implementation date

Ministry of Industry and Information Technology of
the P.R. China
Feb 5, 2009

Annex:**19 chemical and engineering construction standards number, name
and implementation date**

S/N	Standard No.	Standard Name	Replaced Standard No.	Implementing Date
71	HG/T 20592-2009	Steel Pipe Flanges (PN Designated)	HG/T 20592-1997	2009-07-01
72	HG/T 20606-2009	Non-metallic Flat Gaskets for use with Steel Pipe Flanges (PN Designated)	HG/T 20606-1997	2009-07-01
73	HG/T 20607-2009	PTFE Envelope Gaskets for use with Steel Pipe Flanges (PN Designated)	HG/T 20607-1997	2009-07-01
74	HG/T 20609-2009	Metal Jacketed Gaskets for use with Steel Pipe Flanges (PN Designated)	HG/T 20609-1997	2009-07-01
75	HG/T 20610-2009	Spiral Wound Gaskets for Use with Steel Pipe Flanges (PN Designated)	HG/T 20610-1997	2009-07-01
76	HG/T 20611-2009	Covered Serrated Metal Gaskets for Use with Steel Pipe Flanges (PN Designated)	HG/T 20611-1997	2009-07-01
77	HG/T 20612-2009	Metallic Ring Joint Gaskets for Use with Steel Pipe Flanges (PN Designated)	HG/T 20612-1997	2009-07-01
78	HG/T 20613-2009	Bolting for Use with Steel Pipe Flanges (PN Designated)	HG/T 20613-1997	2009-07-01
79	HG/T 20614-2009	Specification for Selection of Steel Pipe Flanges, Gaskets and Bolting (PN Designated)	HG/T 20614-1997	2009-07-01
80	HG/T 20615-2009	Steel Pipe Flanges (Class Designated)	HG/T 20615-1997	2009-07-01
81	HG/T 20623-2009	Large Diameter Steel Pipe Flanges (Class Designated)	HG/T 20623-1997	2009-07-01
82	HG/T 20627-2009	Non-metallic Flat Gaskets for Use with Steel Pipe Flanges (Class Designated)	HG/T 20627-1997	2009-07-01
83	HG/T 20628-2009	PTFE Envelope Gaskets for use with Steel Pipe Flanges (Class Designated)	HG/T 20628-1997	2009-07-01
84	HG/T 20630-2009	Metal Jacketed Gaskets for use with Steel Pipe Flanges (Class Designated)	HG/T 20630-1997	2009-07-01
85	HG/T 20631-2009	Spiral Wound Gaskets for Use with Steel Pipe Flanges (Class Designated)	HG/T 20631-1997	2009-07-01
86	HG/T 20632-2009	Covered Serrated Metal Gaskets for Use with Steel Pipe Flanges (Class Designated)	HG/T 20632-1997	2009-07-01
87	HG/T 20633-2009	Metallic Ring Joint Gaskets for Use with Steel Pipe Flanges (Class Designated)	HG/T 20633-1997	2009-07-01
88	HG/T 20634-2009	Bolting for Use with Steel Pipe Flanges (Class Designated)	HG/T 20634-1997	2009-07-01
89	HG/T 20635-2009	Specification for Selection of Steel Pipe Flanges, Gaskets and Bolting (Class Designated)	HG/T 20635-1997	2009-07-01

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Professional Standard of the People's Republic of China

HG/T 20592-2009

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钢 制 管 法 兰

(PN 系列)

Steel Pipe Flanges

(PN Designated)

Issued on Feb 05, 2009

Implemented on Jul 01, 2009

**Issued by the Ministry of Industry and Information Technology of the People's Republic of
China**

Steel Pipe Flanges — (PN Designated)

1. General provisions

1.0.1 This national standard specifies the basic technical requirements of steel pipe flanges (PN designated), including nominal dimension, nominal pressure, material, pressure-temperature rating, flange type, dimension, seal contact face, tolerance and marking.

1.0.2 This Standard is applicable to steel pipe flanges and blind flanges in nominal pressure of PN2.5~PN160. The nominal flange pressure grades are denoted by PN, including the following nine grades: PN2.5, PN6, PN10, PN16, PN25, PN40, PN63, PN100 and PN160.

1.0.3 Nominal dimension and outside diameter of the steel pipe

Outside diameter of the steel pipe applicable to this Standard includes two series: A and B, where A designs for the international purposes (it is commonly referred to as "John Guest"), while B designs for the domestic adopting series (it is commonly referred to as "metric pipe"). Its nominal dimension DN and outside diameter of the steel pipe are in accordance with those specified in Table 1.0.3.

The flanges adopting B series steel pipe shall be marked with "B" at the back of the number of nominal dimension DN for differentiation. However, the flange adopting A series steel pipe must not be marked with "A" at the back of the number of nominal dimension DN, for more details, see Chapter 13 and Chapter 14 of this Standard.

Table 1.0.3 Nominal Dimension and Outside Diameter of the Steel Pipe (mm)

Nominal dimension DN		10	15	20	25	32		40	50	65	80
Outside diameter of the steel pipe	A	17.2	21.3	26.9	33.7	42.4		48.3	60.3	76.1	88.9
	B	14	18	25	32	38		45	57	76	89
Nominal dimension DN		100	125	150	200	250	300	350	400	450	500
Outside diameter of the steel pipe	A	114.3	139.7	168.3	219.1	273	323.9	355.6	406.4	457	508
	B	108	133	159	219	273	325	377	426	480	530
Nominal dimension DN		600	700	800	900	1000	1200	1400	1600	1800	2000
Outside diameter of the steel pipe	A	610	711	813	914	1016	1219	1422	1626	1829	2032
	B	630	720	820	920	1020	1220	1420	1620	1820	2020

1.0.4 This Standard is also applicable to valve, pump, chemical engineering machinery, pipeline fittings and equipment spares with flange being used as its coupling mode.

1.0.5 This Standard excludes selection principle for materials under particular fluid operating conditions.

2. Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

- "Pipework Components--Definition and Selection of DN (Nominal Dimension)" GB/T 1047
- "Pipework Components--Definition and Selection of PN (Nominal Pressure)" GB/T 1048
- "Steel Pressure Vessels" GB 150
- "Fasteners-Clearance Holes and Counterbores" GB/T 152.1~152.4
- "Carbon Structural Steels" GB/T 700
- "Hot-rolled Quality Carbon Structural Steel Plates and Wide Strips" GB/T 711
- "Steel Plates for Boiler and Pressure Vessels" GB 713
- "Hot-rolled Plates and Strips of Carbon Structural Steels and High Strength Low Alloy Structural Steels" GB/T 3274
- "Low Alloy Steel Plates for Low Temperature Pressure Vessels" GB 3531
- "Hot Rolled Stainless Steel Plate Sheet and Strip" GB/T 4237
- "Pipe Threads with 55 Degree Thread Angle where Pressure-tight Joints are Made on the Threads--Part 2: Taper Internal and External Threads" GB/T 7306.2
- "General Purpose Industrial Valves-Specification of Carbon Steel Forgings" GB/T 12228
- "General Purpose Industrial Valves-Specification of Carbon Steel Castings" GB/T 12229
- "General Purpose Industrial Valve—Specification of Stainless Steel Castings" GB/T 12230
- "Pipe Threads with the Thread Angle of 60 Degrees where Pressure-tight Joints are made on the Threads" GB/T 12716
- "Steel Castings for Pressure Purposes" GB/T 16253
- "Dimension Selection Series of Seamless and Welded Steel Pipe for Chemical Industry Piping" HG/T 20553
- "Non-metallic Flat Gaskets for use with Steel Pipe Flanges (PN designated)" HG/T 20606
- "PTFE Envelope Gaskets for use with Steel Pipe Flanges (PN designated)" HG/T 20607
- "Metal Jacketed Gaskets for use with Steel Pipe Flanges (PN designated)" HG/T 20609
- "Spiral Wound Gaskets for use with Steel Pipe Flanges (PN designated)" HG/T 20610
- "Covered Serrated Metal Gaskets for use with Steel Pipe Flanges (PN designated)" HG/T 20611
- "Metallic Ring Joint Gaskets for use with Steel Pipe Flanges (PN designated)" HG/T 20612
- "Bolting for use with Steel Pipe Flanges (PN designated)" HG/T 20613
- "Specification for selection of Steel Pipe Flanges, Gaskets and Bolting (PN designated)" HG/T 20614
- "Welding Specification for Steel Pressure Vessels" JB/T 4709
- "Carbon and Low-alloy Steel Forgings for Pressure Vessels" JB 4726
- "Low-alloy Steel Forgings for Low Temperature Pressure Vessels" JB 4727
- "Stainless Steel Forgings for Pressure Vessels" JB 4728
- "Nondestructive Testing of Pressure Vessels" JB/T 4730
- "Specification for Steel Casting for Power Station Valves" JB/T 5263
- "Technical Specification for Low Temperature Service Steel Casting for Valves" JB/T 7248

3. Flange Type and Flange Seal Contact Face

3.1 Flange type

3.1.1 The flange type and its code are in accordance with those specified in Figure 3.1.1 and Table 3.1.1. The flange type includes: plate-type flat welding flange (PL), slip-on neck flange (SO), welding neck flange (WN), integral type flange, socket welding flange (SW), thread flange (TH), butt welding ring loose flange (PJ/SE), flat welding ring loose flange (PJ/PR), blind flange (BL) and lining blind flange (BL<S>).

3.1.2 The orifice flange for flow measurement complies with the provisions of Appendix A of this Standard.

3.1.3 The jacket flange for full jacket pipeline may refer to the requirements of Appendix B of this Standard.

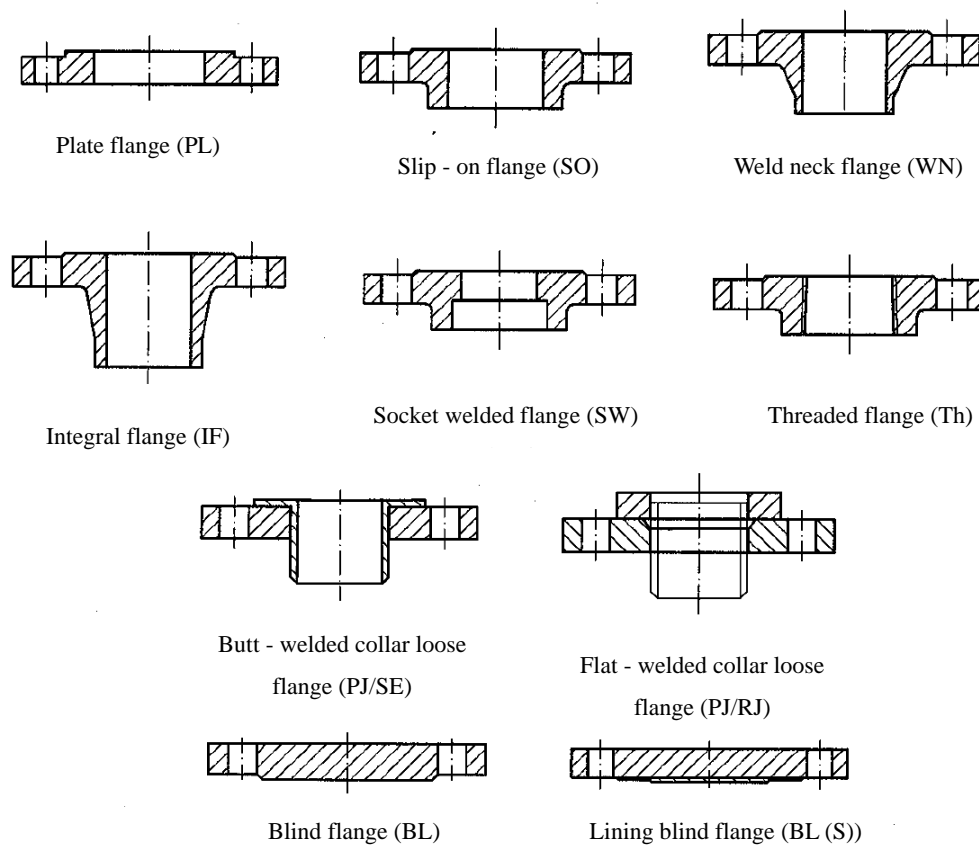


Figure 3.1.1 Flange types and their designation

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