



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 9124.1-2019

Steel pipe flanges -- Part 1: PN designated

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Foreword

GB/T 9124 consists of the following two parts, under the general title Steel pipe flanges.

- Part 1. PN designated;
- Part 2. Class designated.

This Part is Part 1 of GB/T 9124.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part supersedes GB/T 9112-2010 Types and parameters for steel pipe flanges, GB/T 9113-2010 Integral steel pipe flanges, GB/T 9114-2010 Hubbed screwed steel pipe flanges, GB/T 9115-2010 Steel pipe welding neck flanges, GB/T 9116-2010 Hubbed slip-on-welding steel pipe flanges, GB/T 9117-2010 Hubbed socket welding steel pipe flanges, GB/T 9118-2010 Loose hubbed steel pipe flanges with welding neck collar, GB/T 9119-2010 Slip-on-welding plate steel pipe flanges, GB/T 9120-2010 Loose plate steel pipe flanges with weld-neck collar and with weld ring neck, GB/T 9121-2010 Loose plate steel pipe flanges with weld-on collar, GB/T 9122-2010 Loose plate steel pipe flanges with lapped pipe end and pressed collar with long neck, GB/T 9123-2010 Steel pipe blank flanges, and GB/T 9124-2010 Specification for steel pipe flanges for the content of PN designated flanges. The content of Class designated flanges is incorporated into Part 2 of GB/T 9124. The main changes compared with the GB/T 9112~9124-2010 series standards are as follows.

- Supplement and revise the content regarding PN designated flanges in the

2010 version of the standard;

- Expand the nominal pressure range of the blank flanges from PN2.5~PN160 to PN2.5~PN400;
- Revise the nominal size range of hubbed screwed flanges from DN10~DN1000 to DN10~DN150;
- Revise the steel pipe outer diameter, and revise the flange dimensions accordingly;
- Supplement information on some flange materials and their pressure-

temperature ratings;

-- Revise and improve the technical requirements and other related content;

-- Add a method for determining pressure-temperature ratings.

Steel pipe flanges - Part 1. PN designated

1 Scope

This Part of GB/T 9124 specifies the types and parameters, styles and dimensions, technical requirements, tests, inspections and acceptance, marking and labeling, and supply requirements for PN designated steel pipe flanges and blank flanges.

This Part applies to steel pipe flanges and blank flanges with nominal pressure PN2.5~PN400 and nominal size DN10~DN4000.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 152.4, Fasteners - Counterbores for hexagon bolts and nuts

GB/T 700, Carbon structural steels

GB/T 711, Hot-rolled quality carbon structural steel plates, sheets and wide strips

GB/T 712, Structural steel for ship and ocean engineering

GB/T 713, Steel plates for boilers and pressure vessels

GB/T 1047, Pipework components - Definition and selection of nominal size

GB/T 1048, Pipework components - Definition and selection of nominal pressure

GB/T 1804, General tolerances - Tolerances for linear and angular dimensions without individual tolerance indications

GB/T 3531, Low alloy steel plates for low temperature pressure vessels

GB/T 4237, Hot rolled stainless steel plate, sheet and strip

GB/T 7306.1, Pipe threads with 55 degree thread angle where pressure-tight joints are made on the threads - Part 1. Parallel internal and taper external threads

GB/T 9125, Fasteners for pipe flange joints

GB/T 12228, General purpose industrial valves - Specification of carbon steel forgings

GB/T 12229, General purpose industrial valves - Specification of carbon steel castings

GB/T 12230, General purpose industrial valves - Specification of stainless steel castings

GB/T 12716, Taper pipe threads with 60 degree

GB/T 14976, Seamless stainless steel pipes for fluid transport

GB/T 16253, Steel castings for pressure purposes

JB/T 5263, Specification for steel casting for power station valves

JB/T 7248, Technical specification for low temperature service steel casting for valves

NB/T 47008, Carbon and alloy steel forgings for pressure equipment

NB/T 47009, Low-alloy steel forgings for low temperature pressure equipment

NB/T 47010, Stainless and heat-resisting steel forgings for pressure equipment

3.1.2 This Part specifies the following 12 pressure ratings, identified by PN, for nominal

pressure.

PN2.5, PN6, PN10, PN16, PN25, PN40, PN63, PN100, PN160, PN250, PN320, PN400.

3.2.2 This Part specifies the following 39 sizes, identified by DN, for nominal size.

DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125,
DN150, DN200, DN250, DN300, DN350, DN400, DN450, DN500, DN600, DN700,
DN800, DN900, DN1000, DN1200, DN1400, DN1600, DN1800, DN2000, DN2200,
DN2400, DN2600, DN2800, DN3000, DN3200, DN3400, DN3600, DN3800, DN4000.

5.1.1 Commonly used materials for steel pipe flanges shall conform to the provisions

of Table 92. The chemical composition, mechanical properties, operating temperature