Pure Titanium Flange

Grade: Grade1, Grade2, Grade3, Grade4

Specifications: DN15-DN1000 (customizable according to customer needs)

Origin: Baoji, China

Standards: ANSI B16.5,ASTM B381, ASME B16.5/B16.47, etc.

What Is a Pure Titanium Flange?

A CP Titanium Flange is a critical pipe fitting used to connect pipes, valves, pumps, and other equipment within a piping system.

By using commercially pure titanium (Grade 1 – Grade 4), you benefit from:

- Outstanding corrosion resistance
- Low density and high strength-to-weight ratio
- Excellent weldability and formability
- Long service life in aggressive environments

Compared with traditional steel or stainless steel flanges, pure titanium offer superior performance in corrosive and high-purity applications.

Applications

Chemical industry: Piping systems for conveying corrosive chemicals.

Oil and Gas: Corrosion-resistant connections for offshore platforms and refineries.

Shipbuilding: Corrosion-resistant structural components for ships.

Power & Energy: Reliable flange connections in power generation and energy systems.

Pure Titanium Flange Specifications & International Standards

		Grade1	Grade2	Grade3	Grade4
Chemical composition	Titanium (Ti)	balance	balance	balance	balance
	Oxygen (O), max	0.18%	0.25%	0.35%	0.40%
	Iron (Fe), max	0.20%	0.30%	0.30%	0.50%
	Carbon (C), max	0.08%	0.08%	0.08%	0.08%
	Nitrogen (N), max	0.03%	0.03%	0.05%	0.05%
	Hydrogen (H), max	0.015%	0.015%	0.015%	0.015%
Mechanical properties	Tensile strength	240Mpa	345Mpa	450Mpa	550Mpa
	Yield strength	138Mpa	275Mpa	380Mpa	483Mpa
	4D elongation	24%	20%	18%	15%
	Reduction of area	30%	30%	30%	25%

Key Features of Pure Titanium Pipe Flange

Parameter name	Value
Material	Pure titanium
Density	4.51g/cm³
Connection method	Welding, thread, flange connection, etc.
Surface treatment	Machining, anodizing, etc.

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condition	Hot working state, annealing state
Size	NPS(in): 1 / 2" to 24" DN(mm): 15 to 600(customizable)
Class / Pressure	150#, 300#, 600#, 900#, 1500#, 2500#, PN6, PN10, PN16, PN25, PN40, PN64 etc.
Flange Type	Plate type flat welding flange, neck flat welding flange, butt welding flange, threaded flange, etc.

ASTM B381 Titanium Flange Quality Assurance & Certifications

Baoji Zecheng Metal Materials Co., Ltd. follows the ISO9001&AS9100 quality management system control process. From the purchase of raw materials, grade 0 and grade 1 titanium sponge, to the use of professional equipment for processing and delivery, each step is subject to strict quality control and testing. We promise to provide high-quality titanium flanges that meet international standards to ensure customer satisfaction.

CP Titanium Flange FAQ

1. Can I order customized Titanium Flanges?

Yes. As a professional CP Titanium Flange factory in China, we support full customization, including non-standard sizes, pressure classes, flange types, and surface finishes.

2. Do you provide free samples?

Yes. Pure Titanium Flange Free Sample is available upon request, subject to size and project requirements.

3. How do I choose the right grade for my project?

Grade 1 / Grade 2: Best for chemical processing and seawater environments requiring excellent corrosion resistance.

Grade 3 / Grade 4: Higher strength, suitable for higher pressure or structural applications.

If you are unsure, our engineers will recommend the most suitable grade based on your operating conditions.

4. What is your typical delivery time?

Standard sizes are usually delivered within 2–3 weeks. Customized orders depend on complexity, but we always confirm lead time before order confirmation to avoid project delays.

Looking for a reliable Titanium Flange supplier? Contact us now for a fast quote or free sample.

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