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

GB/T 3215-2025

Replacing GB/T 3215-2019

**Centrifugal pumps for petroleum, petrochemical and natural
gas industries**

石油、石化和天然气工业用离心泵

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 3215-2019 "Centrifugal Pumps for Petroleum, Petrochemical and Natural Gas Industries". Compared with GB/T 3215-2019, except for...

Aside from structural adjustments and editorial changes, the main technical changes are as follows.

- The definition of "traditional rigidity" has been changed (see 3.8, 2019 version 3.8);
- The term "maximum permissible speed" has been changed to "maximum continuous speed" (see 3.19, 2019 edition of 3.19);
- The definition of "maximum discharge pressure" has been changed (see 3.22, 2019 version 3.22);
- The pump classification designation has been changed (see Table 1, 2019 version of Table 1);
- Added the distinction and illustration for BB1 pump base mounting BB1-A and near-centerline mounting BB1-B (see 4.2.2.7);
- The illustrations for VS1, VS6, and VS7 pumps have been revised (see 4.2.2.12, 4.2.2.17, and 4.2.2.18; 4.2.2.12 in the 2019 version).
- 4.2.2.17 and 4.2.2.18);
- The requirement that the equipment have a service life of at least 20 years (excluding consumable parts) and a continuous operating life of at least 3 years has been removed (see 2019).
- (6.1.1 of the 2018 edition)
- Added the requirement that the equipment must be buyer-approved and field-verified, and how to obtain field verification (see 6.1.1);
- Added the requirement that "for variable speed pumps (ASD), the seller shall determine the minimum permissible speed of the equipment and keep a record" (see 6.1.5);
- The NPSHA reference elevation requirements for vertical inline pumps and suspended pumps have been changed (see 6.1.8, 2019 version of 6.1.8);
- Added pumps with an outlet diameter greater than 80mm; at any given flow point within the pump's optimal operating range, the head between parallel pumps...

The difference should not exceed 3% (see 6.1.11);

---Added the requirement that the flow rate at the end of the curve be defined as 120% of the flow rate at the optimal efficiency point (see 6.1.12);

---The requirement that low specific speed pumps should indicate the expected flow limit on the quotation curve has been removed (see 6.1.12 of the 2019 version);

---Added the criterion relationship between minimum temperature rise in the cooling system and heat exchanger surface velocity, as well as the buyer's approval principle (see 6.1.20);

---The requirement for a self-priming pump with a front-mounted self-priming device has been added (see 6.1.22);

---Added information on the impact of on-site factors on pump performance, and on-site witnessing of the project by the seller's representative (see 6.1.27);

---The ANSI/ASME B1.1 thread specification has been amended (see 6.1.30, 6.1.29 in the 2019 edition);

---The definition of maximum discharge pressure has been changed (see 6.3.1, 2019 version of 6.3.1);

---Added the maximum operating pressure requirement for the hydraulic recovery turbine pressure housing and turbine outlet safety protection measures (see 6.3.5);

---Added operating conditions for radially split shells (see 6.3.9);

---Added requirements for the surface roughness of the sealing surface where the spiral wound gasket is placed (see 6.3.12);

---The requirement for cast iron flanges has been removed (see 6.4.2.2 in the 2019 version);

---The requirements for GB/T 13402 (Large Diameter Class) have been amended to explicitly specify that it refers to Series B flanges (see 6.4.2.2, 2019 version).

6.4.2.2);

---Added tolerance requirements for the outer diameter of Class flanges (see 6.4.2.3);

---Added requirements for selecting pipe thread connection methods (see 6.4.3.2);

---The interface material welded to the pump casing should be selected based on the temperature limit of 260°C for the piping material requirements (see...).

6.4.3.4);

---The requirement for cast iron pressure pump housings has been removed (see 6.4.3.6 in the 2019 version);