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

GB/T 34391-2017

**Reciprocating positive displacement pumps for petroleum,
petrochemical and natural gas industries**

石油、石化和天然气工业用往复泵

(English Translation)

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Foreword

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

This standard uses the translation method identical with ISO 13710:2004 "Petroleum, petrochemical and natural gas industry reciprocating positive displacement pumps" (English Version).

For the documents of our country which have correspondence with the international documents that are normative references in this standard, please refer to Appendix NA.

For ease of use, this standard made the following editorial changes.

- Standard name changed to "oil, petrochemical and natural gas industry with reciprocating pump";
- The unit of measurement in this standard formula ft (feet), ft/s (feet per second), psi (pounds per square inch) were changed to International Units System m (meters), m/s (meters per second), kPa (kPa);
- "Standard" in front of the "-" is the buyer to implement the terms;
- Added information appendix NB "flange standard and nominal pressure rating table";
- Added information appendix NC "pump parts with the main material control table." this standard is proposed by the China Machinery Industry Federation.

This standard by the National Standardization Technical Committee pump (SAC/TC211) centralized.

This standard was drafted unit. Hefei General Machinery Research Institute, Ningbo Heli Pump Co., Ltd., Tianjin Tong Jie High Pressure Pump Manufacturing Co., Ltd., Shandong Weifang Shengjian Machinery Co., Ltd., Hangzhou Tide Petrochemical Equipment Co., Ltd., Serenity Industrial Equipment (Suzhou) Co., Ltd., Ning Wave Lake Oil Equipment Co., Ltd., China National Petroleum Corporation Changqing Oilfield Branch, Hefei General Environmental Control Technology Limited Responsible company.

1 Scope

This standard specifies the reciprocating pumps and pump units used in the petroleum, petrochemical and natural gas industries, suitable for both direct acting and motorized form.

This standard does not apply to metering pumps and rotary pumps.

Note: Metering pump check APIStd675; rotary pump check APIStd676.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

Pipe threads where pressure-tight joints are made on the threads (ISO 228-1, Non-connecting Fastener Pipe Threads Part 1. Diameter, Tolerance, Size)
(Pipe threads where pressure-tight joints are not made on the threads-Part 1: Dimensions, tolerances and designation) ISO 261 ISO general thread general rules (ISO general-purpose metric screw threads-General plan) ISO 262 ISO general thread can choose the thread, bolts, nuts (ISO general-purpose metric screw threads-Selected sizes for screws, bolts and nuts) ISO 281 Rolling bearings rated dynamic load and rated life (Rolling bearings-Dynamic load ratings and rating life) ISO 286-2 ISO limits and cooperation system Part 2. Standard tolerance levels and hole, shaft limit deviation table (ISO system of limits and fits-Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts) ISO 724 ordinary thread basic dimensions (ISO general-purpose metric screw threads-Basic dimensions) ISO 965 (all parts) General thread tolerances (ISO general-purpose metric screw threads-Tolerances) ISO 1328-1 Cylindrical gears - Precision parts - Part 1 Definitions and tolerances of gear teeth on the same side (Cylindrical gears-ISO system of accuracy-Part 1: Definitions and allowable values of deviations relevant to corresponding flanks of gear teeth) ISO 1940-1 Mechanical vibration constant (rigid) rotor balance quality requirements - Part 1. Specification and balance tolerance test (Mechanical vibration-Balance quality requirements of rigid rotors-Part 1: Determination of permissible residual imbalance) ISO 3448 Industrial Liquid Lubricants ISO viscosity classification (Industrial liquid lubricants-ISO viscosity classification) ISO 5753 rotating bearing internal clearance (Rolling bearings-Radial internal clearance) ISO 6708 pipe nominal size definition and selection [Pipe work components-Definition and selection of DN (nominal size)] ISO 7005-1:1992 Metal flanges Part 1. Steel flanges (Metallic flanges-Part 1: Steel flanges) ISO 7005-2 metal flange Part 2. Cast iron pipe flange (Metallic flanges-Part 2: Cast iron flanges) ISO 8501-1 Steel sheets before application of coatings - Visual evaluation of surface cleanliness - Part 1. Uncoated steel sheets Surface and total removal of the original coating after the steel surface rust grades and treatment levels (Preparation of steel substrates before