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

GB/T 40077-2021

**Reciprocating positive displacement pumps and pump units -
Technical requirements**

往复式容积泵和泵装置 技术要求

(English Translation)

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1 Scope

This standard specifies the technical requirements for reciprocating positive displacement pumps and pump devices, but does not provide for their safety and testing.

This standard applies to pumps that drive reciprocating motion through crankshafts and camshafts, as well as fluid-driven direct-acting pumps.

This standard does not apply to reciprocating positive displacement pumps where the

delivery medium is not water and the entire pump is lubricated with the delivered liquid.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article. For undated reference documents, the latest version (including all amendments) is applicable to this document.

ISO 14 Straight-sided Splines for Cylindrical Shafts (Straight-sided Splines for Cylindrical Shafts) with internal centering—Dimensions, tolerances and verification)

ISO 1027. Principles and Identification of Radiographic Image Quality Indexes for Nondestructive Testing (Radiographic Image Quality indicators for non-destructive testing—Principles and identification)

ISO 2491 thin flat keys and their corresponding keyways (dimensions expressed in millimeters) [Thin parallel keys and their corresponding keyways (Dimensions in millimetres)]

ISO 2492 hook head wedge key or ordinary wedge key and its keyway (dimensions in millimeters) (Thin taper keys with or without gib head and their corresponding keyways (Dimensions in millimetres))

ISO 3117 Tangential keys and keyways (Tangential keys and keyways)

ISO 3453 Non-destructive testing liquid penetration inspection method (Non-destructive testing—Liquid penetrant inspection—Means of verification.)

ISO 3912 Half-round keys and keyways (Woodruff keys and keyways)

ISO 4156 straight cylindrical involute spline metric module, side assembly versatility, size and inspection (Straight cylindrical involute splines—Metric module, side fit—Generalities, dimensions and inspection)

ISO 6149-1 for hydraulic transmission and general purpose pipe joints with ISO 261 metric thread and O-ring seal port and column head Bolt end part 1. Port with O-ring seal in the counterbore groove (Connections for fluid power and general use—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 1: Ports with O-ring seal in truncated housing)

ISO 6149-2 Pipe joints for hydraulic transmission and general use. Ports and threaded ends with ISO 261 threads and O-ring seals Part 2: Dimensions, design, test methods and technical requirements of heavy-duty (S series) stud ends [Connections for fluid power and general use—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 2: Heavy duty (S series) stud ends—Dimensions, design, test methods and requirements]

ISO 6149-3 Pipe joints for hydraulic transmission and general use. Ports and threaded ends with ISO 261 threads and O-ring seals Part 3: Dimensions, design, test methods and

technical requirements of light (L series) stud ends [Connections for fluid power and general use - Ports and stud ends with ISO 261 threads and O-ring sealing - Part 3: Light duty (L series) stud ends - Dimensions, design, test methods and requirements]

ISO 6162-1:2002 Flange joints of split clamps or integral flange clamps for hydraulic transmission belts and metric or inch screws. Part 1.

Use flange joints when the pressure is 3.5MPa (35bar) to 35MPa (350bar), DN13 to DN127 (Hydraulic fluid power - Flange connectors with split or one-piece flange clamps and metric or inch screws - Part 1: Flange)

3.8 Series production

Regularly manufactured pumps or pump devices in accordance with the same specifications, and the number of production in a batch is not less than 10 units. Standards available from suppliers Choose and purchase from the standard specification table. After reaching an agreement between the buyer and the supplier, the mass production pump can be some customized production pumps. The specification is not within the standard specification.

Note: If the buyer is familiar with the supplier's small-batch or mass-produced pumps or pump devices, he can choose from the specification sheet. The data in the specification table can be Perform verification at the supplier's test base. Unless otherwise specified on the specification sheet, clean water is generally used as the test medium.

4.1 Buyer information

When the supplier is required to provide a pump, the buyer should provide the supplier with the information needed to select the correct pump or pump device. For this, you can use the appendix The data sheet in A. The selection should consider all the information received and related performance requirements, environment and expected operating conditions. If some If important information is missing, the supplier shall ask the buyer and obtain this information. In addition, the buyer is obliged to compare all possible factors that may affect the pump performance with Inform the supplier of relevant information on the life span.

4.2 Optional items

If applicable and require deviations from this standard, the buyer's information shall include the options and item descriptions of the special agreement. Special agreement options And project terms can be found in Appendix B.