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

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**Pipe threads with the thread angle of 60 degrees where
pressure-tight joints are made on threads**

(English Translation)

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1 Scope

This Standard specifies the thread form, basic size, tolerance, marking and gauge of pipe thread (NPT and NPSC) with sealed thread pair and thread form angle of 60°.

This Standard is applicable to sealed thread connection for pipe, valve, pipe joint, cock, and other pipe fittings.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 14791 Screw Threads - Vocabulary

3.1 Terms and definitions

The following terms and definitions and those ones stipulated in GB/T 14791 are applicable to this document.

3.1.1 Reference plane

The visible plane of reference workpiece for reading the inspection values (position deviation of the datum plane) during using the gauge to inspect the thread. It is the outer end-face of female thread and small end-face of male thread.

4.1 Design of thread form

See Figure 1 for thread form of cylinder female thread (NPSC); see Figure 2 for thread form of cylinder thread (NPT).

4.2 Size of thread form

The size of thread form shall be calculated as per the following formula.

4.3 Tolerance of thread height

The distribution positions of tolerance zones for thread crest height and thread root height can refer to Figure 3; while the tolerance value shall be consistent with the provisions of Table 1.

5 Thread Type and Conjunction

The female thread can be divided into the taper and cylinder threads; while the male thread only has the taper thread.

6.1 Basic dimension

The distribution position of main size of cylinder pipe thread can refer to Figure 4; the basic size shall conform to the provisions of Table 2.

6.3 Integrated position tolerance

The taper pipe thread (NPT) datum plane axial position limit deviation. $\pm 1P$.

6.4 Tolerance between major and minor diameters

In the same axial position plane, the sizes of the thread major and minor diameters shall be changed as the change of the pitch diameter; so that ensure the sizes of thread crest height and thread root height shall be within the tolerance range specified in

Clause 4.

6.5 Single element tolerance of thread

The conical degree, lead and flank angle limit deviation of taper pipe thread (NPT) shall comply with the provisions of Table 3.

7.1 Basic size

The basic sizes of the major diameter, pitch diameter and minor diameter of cylinder

Limit Deviation of Pitch Diameter

7.3 Integrated position tolerance

The limit deviation for axial position of cylinder female thread (NPSC) datum plane.

$\pm 1.5P$.

7.4 Tolerance between major diameter and minor diameter

In the same axial position plane, the sizes of thread major and minor diameters shall be changed as the change of pitch diameter; so that ensure the sizes of thread crest and thread root shall be within the tolerance range specified in Clause 4.

8 Effective Thread Length

The effective thread length of male thread shall be no less than the sum between the

Thread Size Code Number of Teeth Pitch Diameter / mm Minor Diameter / mm

9 Chamfer and Theoretical Position of Datum Plane

For the chamfer on the small end-face of male thread, the theoretical position of its datum plane shall be unchanged, see Figure 5a).

10.1 Marking methods

The pipe thread marking consists of thread feature code, thread size code and thread number of teeth.

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