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

GB/T 12760-2018

Replacing GB/T 12760-1991

**Cylindrical worm and wormwheel information of the
dimensional data to be given on the drawing**

圆柱蜗杆、蜗轮图样上应注明的尺寸数据

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Dimensional data to be given on the worm drawing
- 3.1 General dimensional data to be given on the drawing
- 4 Dimensional data to be given on the wormwheel drawing...
- 5 Other
- 6 Legend
- Appendix A

1 Scope

GB/T 12760-2018 is the Chinese national standard on cylindrical worm and wormwheel information of the dimensional data to be given on the drawing, in the field of mechanical systems and components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 14 May 2018 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2018. Classification: ICS 21.200, CCS J17. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specifies the cylindrical worm and wormwheel information of the dimensional data to be given on the drawing, and recommends the data to be given for the worm gearing (SEE Appendix A). This Standard is applicable to the drawing of cylindrical worms, wormwheels, and gearings with a shaft angle $\sum=90^\circ$; or is used as the basis for the necessary technical parameters provided by the user to the manufacturer.

2 Normative references

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

GB/T 4459.2-2003 Mechanical drawings - Conventional representation of gears

GB/T 10087 Basic tooth profile of cylindrical worm

GB/T 10089 Accuracy of cylindrical worm and wormwheel

3.1 General dimensional data to be given on the drawing

3.1.1 Tip diameter d_{a1} and its tolerance.

3.1.2 Standard pitch diameter d_1 .

3.1.3 Tooth width b_1 .

3.1.4 Shaft (bore) diameter and its tolerance.

3.1.5 Locating surface and its requirements.

3.1.6 The surface roughness of worm gear tooth.

5 Other

5.1 According to the requirements of the specific structural shape of worm and wormwheel and the technical conditions, other data necessary for processing and measurement shall also be given.

5.2 For worms and wormwheels with shafts, and wormwheels whose shafts and bores are not used as centering references, radial runout tolerance shall be given for the measurement surface for centering inspection or check before gear cutting.

5.3 For the ZI worm, the base circle diameter d_{b1} and the base circle lead angle γ_{mb1} shall also be given and listed in the parameter table.

5.4 For ZK1, ZK3, ZC1, ZC2 worms, the forming tool diameter d_0 , as well as the tool tooth profile angle α_0 or the tool arc radius ρ , shall be given and listed in the parameter table.

5.5 As the reference for inspecting the machining accuracy of gear tooth, its dimensional data and geometric tolerance, such as the top cylindrical surface of worm and wormwheel, the worm center bore, etc., shall be given.

5.6 According to the specific structure of worm and wormwheel, other necessary structural dimensional data shall be given.

5.7 Other necessary technical requirements shall be given for worm and wormwheel respectively.

6 Legend

The drawing of worm and wormwheel patterns shall comply with the provisions of GB/T 4459.2-2003. The parameter table in the drawing is generally placed at the upper right of

the drawing. The data items listed in the parameter table can be increased or decreased as needed. The inspection items shall be determined based on the requirements of use and the opinions of users in accordance with the provisions of GB/T 10089 and relevant standards. The technical requirements of drawings are generally placed at the bottom right of the drawing. An example for labeling of the dimensional data to be given on the worm drawing is shown in Figure 1. An example for labeling of the dimensional data to be given on the wormwheel drawing is shown in Figure 2.

Appendix A

(Informative) Data to be given for worm and wormwheel gearing The data to be given for worm and wormwheel gearing shall be listed in a table, for reference when users order from the manufacturer, or when designing power worm gearing and drawing worm and wormwheel patterns. It mainly includes the following contents.

- a) The type, boundary dimensions, and corresponding markings of the gearing;
- b) Characteristic parameters. 1) Transmission center distance a ; 2) Nominal transmission ratio; 3) Actual transmission ratio $i = z_2/z_1$; 4) Rated input power P_1 , kW; 5) Rated output torque T_2 , N · m; 6) Maximum output torque $T_{\max}$, N · m; 7) Input speed n_1 , r/min; 8) Rotational direction of worm; 9) Type of work. continuous or intermittent.