

ICS 21.220.10

CCS G 42



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

GB/T 11544-2012

**Belt drives -- Classical and narrow V-belts -- Dimensions
(system based on datum width)**

(English Translation)

Issued on: December 31, 2012

Implemented on: October 1, 2013

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of PRC**

Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Terms...	5
4 Cross-sectional size...	6
5 Reference length...	8
6 Deviation of reference length...	11
7 Center distance change...	11
8 Measurement method of size...	12
Appendix A (Informative) Reference length of classical V-belt...	15

Foreword

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

This standard replaces GB/T 11544-1997 "Classical and narrow V-belts -

Dimensions". Compared with GB/T 11544-1997, the main technical changes are as follows:

- DELETE the reference circumference of the type A 450 mm and type B 600 mm measuring pulleys, in the "Note" to Table 7 (8.1 in the 1997 edition);
- ADD "Note" to Table 7 (see 8.1);
- DELETE the marking (Chapter 9 of the 1997 edition);
- MODIFY the limit deviation of top width of measuring pulley AND the measuring force of type A and type SPZ (see 8.1; 8.1 of the 1997 edition);
- DELETE the "Appendix A System based on effective width - V belt dimensions" (Appendix A of the 1997 edition);
- DELETE the "Appendix B Grouping code of V-belt" (Appendix B of the 1997 edition).

This standard uses the redrafting method, to modify and adopt ISO 4184:1992

"Belt drives - Classical and narrow V-belts - Lengths in datum system".

Compared with ISO 4184:1992, this standard has many adjustments in structure. Appendix B lists the comparison of clause numbers BETWEEN this standard AND ISO 4184:1992.

Compared with ISO 4184:1992, there are technical differences between this standard. The terms involved in these differences have been marked by a vertical single line (?) on the outer margin of the standard. Appendix C gives a list of the corresponding technical differences and their reasons.

This standard was proposed by the China Petroleum and Chemical Industry Federation.

This standard shall be under the jurisdiction of the Friction Belt Drive Subcommittee of the National Belt Wheel and Belt Standardization Technical Committee (SAC/TC 428/SC 3).

Drafting organizations of this standard: Zhejiang Sanlux Rubber Co., Ltd., Zhejiang Sanwei Rubber Products Co., Ltd., Weishi County Jiulong Rubber and Plastic Co., Ltd., Wuxi Zhonghui Rubber Technology Co., Ltd., Zhejiang Kaiou Transmission Belt Co., Ltd., Qingdao City Products Institute of Quality
Belt drives - Classical and narrow V-belts -
Dimensions (system based on datum width)

1 Scope

This standard specifies the cross-sectional dimensions, reference length, reference length deviation, center distance change, size measurement methods for classical V-belts and narrow V-belts.

This standard applies to classical V-belts and narrow V-belts (hereinafter referred to as V-belts) for general mechanical transmission.

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) is applicable to this standard.

GB/T 321 Preferred numbers - Series of preferred numbers (GB/T 321-2005, ISO3:1973, IDT)

GB/T 6931.2 Belt drives vocabulary - Part 2: V-belts and V-ribbed belt drives vocabulary (GB/T 6931.2-2008, ISO 1081:1995, MOD)

GB/T 10412 classical and narrow V-belt wheels (standard width system) (GB/T 10412-2002, ISO 4183:1995, MOD)

GB/T 11356.1 Grooved pulleys for classical and narrow V-belts (system based on datum width) (GB/T 11356.1-2008, ISO 255:1990, MOD)

GB/T 13490 V-belts - Uniformity of belts - Test method for determination of center distance variation (GB/T 13490-2006, ISO 9608:1994, IDT)

3 Terms

The terms and definitions of V-belt drive, which are defined in GB/T 6931.2, apply to this document.

4 Cross-sectional size

V-belts, which have cross-sections of type Y, Z, A, B, C, D, E are called classical V-belts. The V-belts, which have cross-sections of types SPZ, SPA, SPB, SPC are narrow V-belts. For classical V-belts and narrow V-belts in the standard width system, the corresponding basic widths of the pulley grooves are specified as follows:

- Type Y (for groove type, which has a reference width of 5.3 mm)
- Type Z (for groove type, which has a reference width of 8.5 mm)
- Type A (for groove type, which has a reference width of 11 mm)
- Type B (for groove type, which has a reference width of 14 mm)
- Type C (for groove type, which has a reference width of 19 mm)
- Type D (for groove type, which has a reference width of 27 mm)
- Type E (for groove type, which has a reference width of 32 mm)
- Type SPZ (for groove type, which has a reference width of 8.5 mm)

- Type SPA (for groove type, which has a reference width of 11 mm)
- Type SPB (for groove type, which has a reference width of 14 mm)
- Type SPC (for groove type, which has a reference width of 19 mm)

The nominal size of the cross-section of the V-belt is as shown in Figure 1 and Table 1. Whether the cross-section size is qualified or not, is judged by applying the measuring force, which is specified in Table 7, on the length measuring machine, to measure the exposed height f of the V-belt in the pulley groove (see Figure 2). Table 2 shows the specified value of the exposed height of the V-belt.

Note: Refer to Table 1 for V-belts, which have teeth on the bottom side.

Where:

alphamax - The maximum center distance of the two pulleys, in millimeters (mm);

alphamin - The minimum center distance of the two pulleys, in millimeters (mm);

cd - Reference circumference of the measured pulley (see Table 7), in millimeters (mm).

8.3 Measurement of exposure height

Install the measured V-belt in the grooves of the two pulleys of the length measuring machine. The measuring force, as shown in Table 7, is applied to the V-belt, through the movable pulley. Rotate the V-belt for 1 ~ 3 turns, to make the V-belt fit into the groove of the pulley correctly. After it stops stably, measure the exposed height of the V-belt in the groove, at the center of the belt top width, at any point of the contact arc, BETWEEN the V-belt AND the pulley. However, be careful not to measure on the V-belt where there are cloth joints and trademarks. Take the average value of any three points measured, as the measurement result of exposed height.

8.4 Measurement of center distance change

The measurement of the center distance change is carried out in accordance with the provisions of GB/T 13490.

.....