V-Belt Size Chart — SPZ, SPA, SPB, SPC and Classical Z/A/B/C Profiles

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Profile dimensions for wedge belts SPZ, SPA, SPB, SPC and classical Z, A, B, C sections, how belt length codes work (Lp/Ld), minimum pulley diameters, tensioning basics and cross-brand interchange.

Profile dimensions

Profile | Top width (mm) | Height (mm) | Min pulley Ø (mm) | Typical power/belt† |

SPZ | 9.7 | 8 | 63 | to ~5 kW |

SPA | 12.7 | 10 | 90 | to ~12 kW |

SPB | 16.3 | 13 | 140 | to ~25 kW |

SPC | 22 | 18 | 224 | to ~60 kW |

Z (10) | 10 | 6 | 50 | light duty |

A (13) | 13 | 8 | 71 | to ~3.5 kW |

B (17) | 17 | 11 | 112 | to ~7 kW |

C (22) | 22 | 14 | 180 | to ~15 kW |

†Order-of-magnitude per-belt figures at moderate speeds for quick sanity checks; a real drive is rated from the belt maker's power tables with service factor, speed and pulley diameters.

Reading a belt designation

SPB 2360 Lp means a wedge belt, SPB section, 2360 mm pitch (datum) length. Classical belts are often quoted by inside length (Li) instead — Lp "H Li + a section constant (SPZ +37, SPA +45, SPB +57, SPC +79 mm as a rule of thumb), which is why a "B56" (56-inch inside) and its metric equivalent look different on paper. Raw-edge cogged versions (XPB, SPBX) fit the same grooves, run cooler on small pulleys and are the normal modern substitute for wrapped belts. The catalogue lists Gates SPZ, SPA and SPB Predator lines in lengths from under a metre to over eight.

Interchange and sets

SPZ/SPA/SPB/SPC dimensions are ISO 4184 standard, so Gates, Optibelt, Continental, SKF and Megadyne belts of the same designation interchange dimensionally. On multi-groove drives, replace belts as a complete matched set — mixing worn and new belts makes the new ones carry the load and fail early. Tension to the maker's force-deflection figure (as a first check: 16 mm deflection per metre of span at the specified test force), re-tension after the first 24–48 h of running, and align pulleys within about 0.5°; belt dressing does not belong on a V-belt.

Frequently asked questions

What are the dimensions of an SPB V-belt?SPB section is 16.3 mm wide at the top and 13 mm high, with a minimum recommended pulley diameter of 140 mm.What is the difference between SPA and SPB belts?Section size: SPA is 12.7 × 10 mm (min pulley 90 mm), SPB is 16.3 × 13 mm (min pulley 140 mm); SPB carries roughly double the power per belt. They are not interchangeable in the same groove.What does Lp mean in a V-belt length?Lp (or Ld) is the pitch/datum length measured at the belt's neutral line — the standard way wedge belts SPZ–SPC are specified.Can I replace just one belt in a multi-belt drive?No — always replace the full set with matched belts, otherwise the newest belt takes most of the load and the set fails prematurely.Do different brands of SPB belt interchange?Dimensionally yes: SPZ/SPA/SPB/SPC follow ISO 4184, so same-designation belts from the major makers fit the same pulleys; power ratings differ slightly by construction.

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