

# PRODUCT DESCRIPTION

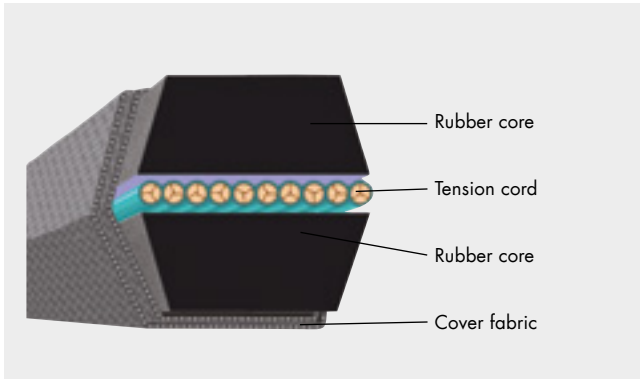
## optibelt DK DOUBLE-SIDED V-BELTS



### Structure

A cross section of the optibelt DK double-sided V-belt reveals a hexagon made up of two congruent trapeziums. The neutral axis containing the tension cord is exactly half way up the belt profile.

optibelt DK double-sided V-belts consist of:



### Properties/Application areas

The tension cord positioned at the centre of the belt gives the optibelt DK double-sided V-belts extreme flexibility and low-stretch properties. Thus, the belt is particularly suitable for flexing in different directions in the same plane. optibelt DK double-sided V-belts are used when several pulleys are arranged in one plane and the direction of one or more of the driven pulleys has to be changed without crossing the belts. Due to the position of the tension cord in the neutral axis and the special shape of the double-sided V-belt, the tension cord is not subjected to any force other than tension unlike standard V-belts bent around an outside idler. The optibelt DK double-sided V-belt comes up to typical serpentine arrangements. Special constructions with different top surfaces are possible. Mainly, double-sided V-belts are used in agricultural machinery but also in mechanical engineering.

### Standardisation

The cross dimensions of the optibelt DK double-sided V-belts comply with DIN 7722 and ISO 5289.

Table 13

Profile	DIN/ISO designation	HAA	HBB	HCC	HDD	—	—
	Designation	AA	BB	CC	DD	22x22	25x22
Belt width	$b \approx$	13	17	22	32	22	25
Belt height	$h \approx$	10	13	17	25	22	22
Recommended minimum pulley diameter	$d_{a \min}$	80	125	224	355	280	280
Belt weight [kg/m]	$\approx$	0.150	0.250	0.440	0.935	0.511	0.625
Belt speed [m/s]	$v_{\max} \approx$	30					

This applies to the profiles HAA, HBB, HCC and HDD, in accordance with the USA standard ASAE S 211. ..., thereby ensuring an international interchange. The reference/nominal length of the optibelt DK double-sided V-belt is measured on the effective/outside diameter of the measuring pulley. This length equates to the middle length of the belt.

Conversion factors are as follows:

Profile AA/HAA reference length  $\approx$  centre length – 4 mm

Profile BB/HBB reference length  $\approx$  centre length – 8 mm

Profile CC/HCC reference length  $\approx$  centre length + 3 mm

Profile DD/HDD reference length = centre length!

Experience has shown that in practical use/ordering these conversion factors can be ignored.

**Note:** Electrically conductive according to ISO 1813.

### V-grooved pulleys

No special pulleys are required for optibelt DK double-sided V-belts. Pulleys conforming to ISO 4183, DIN 2211, DIN 2217 and ASAE S 211. ... are suitable.

Profile AA/HAA in grooved pulleys for profile A/13-SPA

Profile BB/HBB in grooved pulleys for profile B/17-SPB

Profile CC/HCC in grooved pulleys for profile C/22-SPC

Profile DD/HDD in grooved pulleys for profile D/32

### Special profiles

For special applications, we also supply double-sided V-belts in profiles 22 x 22 and 25 x 22. These are not standardised.

### Drive calculation

Drive calculations for optibelt DK double-sided V-belts differ from those given in this manual for two pulley drives. Multi pulley calculations are so complicated that they cannot be presented here.

Reference lengths, rotational speeds, transmission ratios and belt speeds are determined by the reference/outside pulley diameters.

Our Application Engineering Department will be pleased to assist you in the design of drives using optibelt DK double-sided V-belts.

