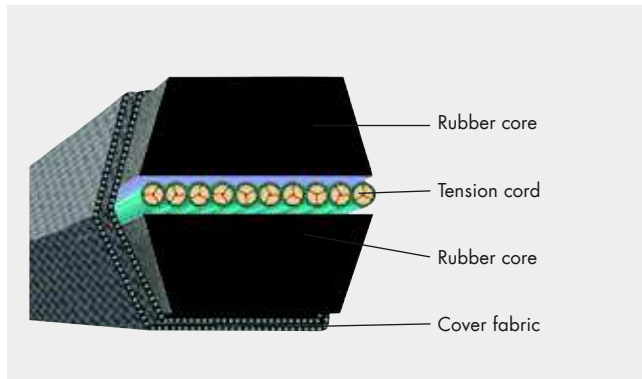


# PRODUCT DESCRIPTION

## 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 comprise:



### 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.

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

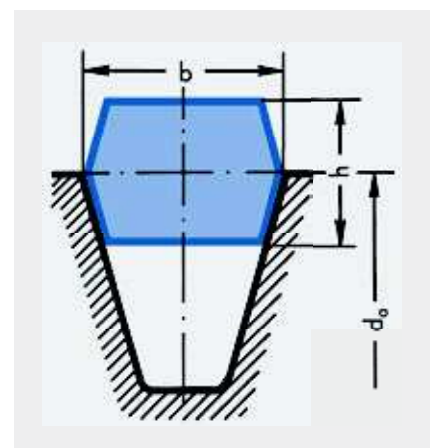
Drive calculations for optibelt DK double-sided V-belts differ from those given in this manual for two pulley drives. Multi pulley calculations are so complicated that they cannot be presented here.

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.

Table 13

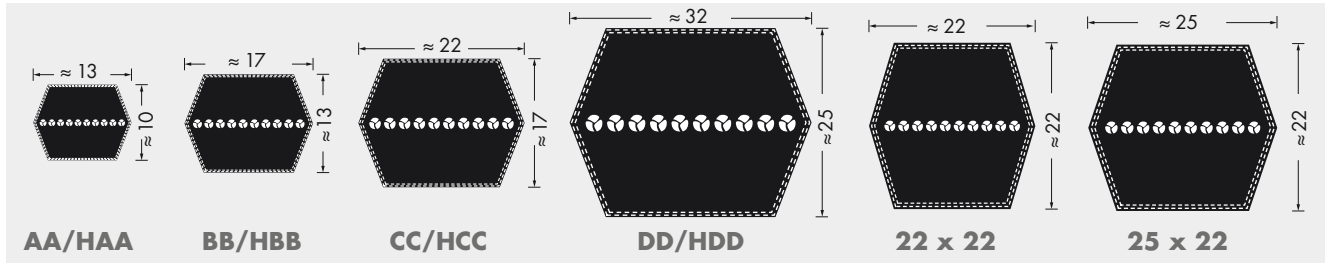
Profile	DIN/ISO designation	HAA	HBB	HCC	HDD	–	–
	Designation	AA	BB	CC	DD	22x22	25x22
Belt width	b $\approx$	13	17	22	32	22	25
Belt height	h $\approx$	10	13	17	25	22	22
Recommended minimum pulley diameter	$d_{a\ min}$	80	125	224	355	280	280
Belt weight [kg/m]	$\approx$	0.150	0.250	0.440	0.935	0.511	0.625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



# STANDARD RANGE

## optibelt **DK** DOUBLE-SIDED V-BELTS

### DIN/ISO, ASAE



Profile AA/HAA		Profile BB/HBB				Profile CC/HCC		Profile DD/HDD	
Reference length [mm]	Belt no.	Reference length [mm]	Belt no.	Reference length [mm]	Belt no.	Reference length [mm]	Belt no.	Reference length [mm]	Belt no.
2000	77	1980	75	4040	156	2280	86	on request	
2032	78	2180	83	4200	162	2500	94		
2370	91	2300	88	4470	173	2800	106		
2500	96	2370	90	4500	174	3200	122		
2650	102	2500	95	4750	184	3310	126		
2667	103	2540	97	5000	194	3765	144		
2800	108	2600	99	5639	221	4000	153		
3300	128	2650	101			4216	162	Weight: ≈ 0.935 kg/m	
3920	152	2740	105			4300	165		
		2800	107			4500	173		
		2850	109			5000	193	<b>Profile 22 x 22</b>	
		2920	112			5300	204		
		3000	115			5340	206	5180	
		3030	116			5750	224	5220	
		3150	121					5850	
		3250	125					6270	
		3280	126						
		3325	128						
		3390	131					Weight: ≈ 0.511 kg/m	
		3450	133						
		3500	135					<b>Profile 25 x 22</b>	
		3550	137						
		3730	144						
		3750	145					on request	
		4010	155						
Weight: ≈ 0.150 kg/m		Weight: ≈ 0.250 kg/m				Weight: ≈ 0.440 kg/m		Weight: ≈ 0.625 kg/m	

Non-standard length ranges and special constructions:

- Profile AA/HAA 1350 to 6000 mm
- Profile BB/HBB 1350 to 12700 mm
- Profile CC/HCC 1600 to 19500 mm
- Profile DD/HDD on request
- Profile 22 x 22 on request
- Profile 25 x 22 on request

**Minimum order quantity for special constructions on request**

Conversion factors from the belt number to the reference length:

**Profile AA/HAA** – Belt no. x 25.4 = mm + 53 mm

**Profile BB/HBB** – (up to belt no. 210)  
Belt no. x 25.4 = mm + 74 mm  
(over belt no. 210)  
Belt no. x 25.4 = mm + 36 mm

**Profile CC/HCC** – (up to belt no. 210)  
Belt no. x 25.4 = mm + 107 mm  
(over belt no. 210)  
Belt no. x 25.4 = mm + 56 mm

**Profile DD/HDD** – (up to belt no. 210)  
Belt no. x 25.4 = mm + 132 mm  
(over belt no. 210)  
Belt no. x 25.4 = mm + 69 mm