



## Motors Drive Industrial V-Belts Technical Specifications



### V Belt Technical Specification POLYESTER CORD Neoprene Jacketed HIC Manufactured UNIVERSAL Brand

Universal V Belts ensures non-stop power transmission of electric motors drive with minimal stretch and anti-static oil-heat resistant quality, in a way, cords used are high tenacity polyester, jacket fabric rubberised with neoprene rubber and supersedes IS:2494, DIN 7753 and BS 2790 standards.



Motor V Belt



Cogged V Belt

#### Power Transmission hic V Belts

- Classical Sections A(13mm), B(17), C(22) upto 450 inches ; D(32), E(38) upto 600"; F(9.5), M(10), O(10), Z(10), K(8), FM(10.2) upto 150" ; 2L(6.5) , 3L(10) upto 50" ; 4L(13.2) upto 400".
- Wedge Space Saver sections SPZ(10), SPA(13), SPB(17) upto 490" ; SPC(22) upto 675".
- Double Hexagonal V Belts AA (12.7), BB (17), CC (22) upto 360".
- Narrow Size Hi-Power V Belts 3V (9.5), 5V (15.9), 8V (25.4) upto 470"; 9N (9), 10N (10), 15N (15), 25N (25) upto 575".
- Raw Edge Cogged v belts AX(13), BX(17), CX(22) upto 120" ; 3VX(9.5), 5VX(16.5) upto 70" ; XPZ(9.7), XPA(12.7), XPB(16.3), XPC(22) upto 120".
- Multiple Banded belts 2 to 6 bands cross sections RA(13), RB(17), RC(22), RD(32) upto 8890 mm.
- Narrow V Banded belts 2 to 8 bands sizes R3V (9.5), R5V (16.9), R8V (25.4), SPZ (10), SPA (13), SPB (17), SPC (22) upto 8000 mm.
- Poly V belts sizes 3PK, 4PK, 5PK, 6PK, 7PK, 8PK upto 2500 mm length.
- Wrapped and Cogged Combine Harvester belts 19X, 25X, 28X, 32X, 36X, 38X, 40X, 45X, 50X, 55X, 60X upto 4000 mm.
- Variable Speed Wrapped and Cogged belts sections HI(25), HJ(36), HK(40), HL(45), HM(50), HN(55) upto 180" ; VK(15), VM(20), VA(25), VB(31), VC(41), VD(52), VE(66), VF(76), VG(87) upto 105".

### Narrow and Cogged V Belts Information To Be Supplied With Enquiry or Order



#### Contact For Quote:

HIC INTERNATIONAL CO -Vee / Fan Belts Power Transmission Product Div

D-136, Shankar Road, New Delhi - 110060, India

**Phone:** 91-11-6547 2400, 2874 5120

**Fax:** 91-11-2874 2791

**E-mail :** universal@hic-india.com; belts@universaldelhi.org

**Website :** <http://www.rubber-steel-industrial-products.com>

**Key personnel :** Mr. Anil Gupta, President



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**LENGTH CODING SYSTEM:** When the code number 50 is shown on the cello-tape affixed on each Poly V-Belt, this indicates that the actual length coincides with the nominal length printed on the belt. Each deviation of 2.5 mm from the nominal length is represented by one unit. For instance, a V-belt with size 100" coded 50 is exactly 100 inches inside length. If the code is 49, then it is 99.9" and if the code is 51, then it is 100.1" inside length.

**MATCHED SETS:** The question of matched sets arises in case of multi V-belt drive as the length of V-belt should be matched in order to obtain even distribution of load. A 'Matched Set' is simply a set of such belts, the length of which are within the specified limits, so that these can be used together.

The table as shown depicts the permissible length deviations in consecutive grading numbers marked near the size code which represents the exact length measured under specified operating tensions.

Belt Drive V Section	Belt Pitch Length Exceeds Inside Length By (mm)	V Belt Outside Diameter Exceeds Pitch Diameter By (mm)	Nominal Inside Length (mm) of Machine Belt	Range (inches) of V Belt	No. of consecutive grading number (s) to be used to make a matched set
A	36	6.6	457 to 1676	18-66	1
B	43	8.4	1702 to 2286	67-90	2
C	56	11.4	2311 to 3048	91-120	3
D	79	16.2	3073 to 4572	121-180	4
E	92	19.3	4597 to 9093	181-358	5
SPZ		4.0	9119 and above	359 and above	6
SPA		6.0			
SPB		7.0			
SPC		9.6			



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### Power Transmission V-Belts Product Specification

Normal Horse Power H.P.	Speed of Faster Shaft i.e. Motor Speed RPM				V-Belt Section	Permissible Min. Belt Pulley Pitch Diameter		Recommended Min Belt Pulley Pitch Diameter	
	720 and below	900	1200	1800		mm	inch	mm	inch
1/2 to 1 <sup>1/2</sup>	A	A	A	A	A	75	3	95	3.8
2 to 3	A or B	A or B	A or B	A or B	B	125	5	145	5.8
5	A or B	A or B	A or B	A or B	C	200	8	225	9
10	A or B	A or B	A or B	A or B	D	315	12.6	350	14
15	C	B or C	B or C	B	E	500	20	550	22
20	C	C	C	B or C	SPZ	-	-	63	2.5
25 to 30	C	C	C	C	SPA	-	-	90	3.6
40	D	C or D	C or D	C	SPB	-	-	160	6.4
50	D	C or D	C or D	C or D	SPC	-	-	224	9.0
60	D	C or D	C or D	C or D					
75	D	C or D	C or D	C or D					

**1 KW = H.P. X 0.746**

Please note that with smaller pulley diameter than those recommended, the life of belt is reduced considerable and also the transmitting power decreases. It is necessary to ensure that at least belts run on pulleys that are not below the permissible minimum diameter for each section.



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Table 3 Standard V Belt Pulley DIMENSIONS

V Belt Groove Cross-Section	Pulley Pitch Diameter dp (mm)	Groove Angle A Degree + 0.5°	Minimum Top width of groove g (mm)	Minimum Groove depth below outside diameter hg (mm)	Centre to Centre of grooves Sg (mm)	Edge of Pulley of First Groove Centre (mm)
SPZ	Upto 80	34	9.7			
	Over 80	38	9.9	11.0	12 ± 0.3	8.0 ± 1.0
A	Upto 118	34	13.0			
SPA	Over 118	38	13.3	13.8	15 ± 0.3	10.0 ± 2.0
B	Upto 190	34	16.6			
SPB	Over 190	38	16.9	17.5	19 ± 0.4	-1.0
C	Upto 315	36	22.7	23.8	25.5 ± 0.4	12.5 ± 2.0
SPC	Over 315	38	22.9	23.8	25.5 ± 0.5	-1.0
D	Upto 475	36	32.2			
	Over 475	38	32.6			
E	Upto 630	36	38.3	28.0	37.0 ± 0.6	24.0 + .0
	Over 630	38	38.6	33.0	44.5 ± 0.7	-1.0
						29 + 4.0
						-1.0

When the Pulleys are to be used for V-belt sections, A, B or C only, dimension hg may be reduced by 20%

Universal urges to use standard premium quality Vee -Belt Pulley either conventional type or new generation quick - fit taper lock Pulley bush type manufactured to drag better mileage from V -Belts drive. Auto Fan Belts, Variable Speed Belts also manufactured.



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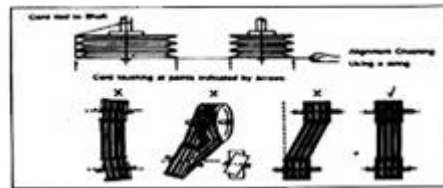
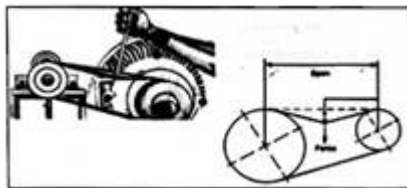


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### Vee Belt Information To Be Supplied With Enquiry or Order

(I) Section (II) Size in inches or mm (III) Quantity in nos.



### Belt Drive Rubber Design Formulae

$$L = 2C + 1.57(D + d) + \frac{(D-d)^2}{4C}$$

$$C = A + \sqrt{(A^2 - B)}$$

Where

$$A = \frac{L}{4} - 0.3925(D + d)$$

$$B = \frac{(D-d)^2}{8}$$

$$\text{Number of belts, } N = \frac{P \times F_s}{R \times F_l \times F_c}$$

where

L = Belt Pitch Length mm

C = Centre Distance mm

D = Pitch dia of large pulley mm

d = Pitch dia of small pulley mm

R = Power Rating per belt KW

F<sub>l</sub> = Belt Length Connection factor

F<sub>c</sub> = Arc of contact correction Factor

F<sub>s</sub> = Service Factor

P = Drive Power in KW

### Narrow and Cogged V Belts Information To Be Supplied With Enquiry or Order

1. Section , Top width x Thickness
2. Size , Length inches I/C or Pitch Length - MM
3. Quantity , nos.

Disclaimer: Information's, written and verbal are provided by HIC, relative to its products which it determines to be reliable & no liabilities of whatsoever nature in regards to its uses. The purchaser of UNIVERSAL brand industrial products should determine for itself the suitability of such products.



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