Endless V-belt drives, sections 'Y', 'Z', 'A', 'B', 'C' and 'D'

(Extract from BS 1440)

Explanatory note. This British Standard specifies V-belts and V-grooved pulleys used for power transmission. It takes account of the work done by ISO/TC 41 ' Pulleys and belts (including vee-belts) ' and supersedes BS 3548 ' Fractional horsepower endless V-belt drives '. It does not apply to industrial variable speed drives employing pulleys with moveable flanges or to drives for agricultural purposes (BS 3733 ' Endless V-belt drives for agricultural purposes '), narrow V-belt drives of sections 3V, 5V and 8V (BS 3790 ' Endless narrow V-belt drives for industrial purposes: sections 3V, 5V and 8V ') or to automotive V-belt drives (BS AU 150 ' Automotive V-belt drives ').

V-belts

Materials and workmanship

The V-belts shall consist of fabric and/or cord, and elastomeric compound(s), the whole being bonded together in a uniform manner and shape in accordance with best manufacturing practice. The belts shall be suitable for operating at ambient temperatures between — 18 °C and 60 °C and shall not be adversely affected under normal operating conditions within this temperature range.

Cross section dimensions

Nominal cross section dimensions and the nominal included angle of V-belts shall be as shown in Fig. 1 and Table 1. The belts shall fit pulley grooves within the limits given in Tables 2A and 2B when mounted on two measuring pulleys made as specified in Table 2B.

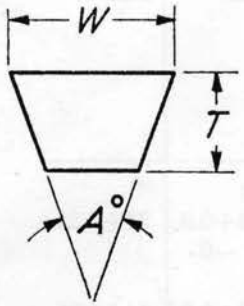

Fig. 1. V-belt cross section

Table 1. Cross-sectional dimensions of standard V-belts

1	2	3	4	5
Cross section symbol	Pitch width l_p	Nominal top width W	Nominal height T	Nominal included angle A
	mm	mm	mm	°
Y	5.3	6.5	4	40
Z	8.5	10	6	40
A	11	13	8	40
B	14	17	11	40
C	19	22	14	40
D	27	32	19	40

Table 2A. Tolerance and force requirements when measuring new V-belts on pulleys as specified in Table 2B (see ' Determination of belt pitch length ')

1	2	3
Cross section symbol	Total force applied to belt	Position of top surface of belt with respect to top of pulley groove
	N	mm
Y	40	+0.8 −0.8
Z	110	+1.6 −1.6
A	200	+1.6 −1.6
B	300	+1.6 −1.6
C	750	+1.2 −2.0
D	1400	+0.8 −3.2

Table 2B. Dimensions of pulleys for measuring new V-belts

1	2	3	4	5	6	7	8	9
Groove cross section symbol	Pitch width l_p	Pitch diameter d_p	Pulley circumference at pitch diameter	Distance down from outside diameter to pitch diameter b	Outside diameter	Top width of groove g	Groove depth d	Groove angle a
	mm	mm	mm	mm	mm	mm	mm	°
Y	5.3	28.69	90	1.6	31.89 +0.06 −0	6.21 +0.03 −0	6.3 +0.8 −0	32 ±0.25
Z	8.5	57.33	180	2.5	62.33 +0.06 −0	10.02 +0.05 −0	9.5 +0.8 −0	34 ±0.25
A	11	95.54	300	3.3	102.14 +0.06 −0	13.00 +0.05 −0	12.0 +0.8 −0	34 ±0.25
B	14	127.39	400	4.2	135.79 +0.06 −0	16.55 +0.07 −0	15.0 +0.8 −0	34 ±0.25
C	19	222.93	700	5.7	234.33 +0.10 −0	22.68 +0.09 −0	20.0 +1.2 −0	36 ±0.25
D	27	318.47	1000	8.1	334.67 +0.16 −0	32.23 +0.13 −0	28.0 +1.6 −0	36 ±0.25

Determination of belt pitch length

The belt pitch length shall be given in Tables 3A to 3F (see ' Marking ' for marking). The pitch length of a V-belt shall be determined when the belt is mounted on a groove measuring fixture having groove dimensions as given in Table 2B with total forces applied and with the belt positioned in the grooves in accordance with the requirements of Table 2A. The total forces shown shall be equally divided between the two strands of the belt and the pulleys shall be rotated at least two revolutions to seat the belt properly. The pitch length shall be calculated by adding the pitch circumference of one of the two equal pulleys to twice the measured centre distance.

The length thus determined shall be within the limits of variation set out in Tables 3A to 3F, Column 2.

Matched belts

Belts indicated as matched belts shall be within the tolerances shown in Column 4 of Tables 3A to 3F. In order to avoid uneven distribution of load, belts running on a multi-belt drive shall be matched belts.

NOTE. Age and storage conditions may alter a belt length. It is recommended that belts from different manufacturers should not be mixed on the same drive.

Electrical resistance

Where V-belts are required by the purchaser to be anti-static, the electrical resistance, when tested in accordance with the method described in Appendix B shall be not greater than

$$\frac{5 \times 10^6 \times L}{8\,I}\ \Omega,$$

where L = the dry distance between electrodes, in millimetres, and
I = the sum of the lengths of the two sloping sides of the V-belt in millimetres,

i.e. $2T \sec \frac{A}{2}$ (Fig. 1).

NOTE. The specified maximum resistance refers to a new complete endless V-belt. For general information on electrical resistance of conductive and anti-static products made from flexible polymeric material see BS 2050, ' Electrical resistance of conductive and anti-static products made from flexible polymeric material '.

Marking

All V-belts manufactured in accordance with this standard shall be marked legibly and durably by vulcanizing or printing on the outer non-working face with a symbol indicating the belt cross section and a nominal pitch length as given in Tables 3A to 3F.

It is recommended that, where manufacturers mark their belts to indicate pitch length for the purpose of matched belt drives, they should adopt the following system of marking.

When the measured pitch length coincides with the nominal pitch length, then stamp length Code 50 on the belt.

Each 2 mm deviation from the nominal pitch length is represented by 1 unit, e.g.:

B1760 belt stamped B1760—50 has a pitch length of 1760 mm.

If it is stamped B1760—48 it has a pitch length of 1756 mm.

If it is stamped B1760—52 it has a pitch length of 1764 mm.

This marking shall appear adjacent to the marking specified in ' Marking '.

Belts with anti-static properties shall be clearly marked either with the words ' anti-static ' or with the letters ' AS '.

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Table 3A. 'Y' section V-belts. Standard pitch lengths and permissible length variations

Nominal pitch length	Pitch length variation	Maximum pitch length variation within a matched set	
		Code numbers	
mm	mm		mm
200 225 250 280 315 355	+8 −6	One length code number	2
400 450 500	+10 − 6		

Table 3B. 'Z' section V-belts. Standard pitch lengths and permissible length variations

Nominal pitch length	Pitch length variation	Maximum pitch length variation within a matched set	
		Code numbers	
mm	mm		mm
405 475	+10 − 6		
530 625 700	+12 − 6		
780 920	+12 − 8	One length code number	2
1080	+14 −10		

Table 3C. 'A' section V-belts. Standard pitch lengths and permissible length variations

Nominal pitch length	Pitch length variation	Maximum pitch length variation within a matched set		Equivalent designation in Table 3, BS 1440, 1968 (inside length)
		Code numbers		
mm	mm		mm	in
630	+18	One length code number	2	—
700	− 8			26
790				30
890	+20			34
990	−10			38
1100				42
1250				48
1430	+22	Any two consecutive	4	55
1550	−12	code numbers		60
1640	+22			63
1750	−16			—
1940	+34	Any three consecutive	6	75
2050	−18	code numbers		79
2200				85
2300				89
2480				96
2570	+34	Any four consecutive	8	100
2700	−20	code numbers		105
2910				113
3080				120
3290	+40			128
3540	−22			138

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Table 3D. 'B' section V-belts. Standard pitch lengths and permissible length variations

Nominal pitch length	Pitch length variation	Maximum pitch length variation within a matched set		Equivalent designation in Table 3, BS 1440, 1968 (inside length)
		Code numbers		
mm	mm		mm	in
930	+20	One length code number	2	35
1000	−10			38
1100				42
1210				46
1370	+22	Any two consecutive code numbers	4	52
1440	−12			55
1560				60
1690	+22			65
1760	−16			68
1950	+34	Any three consecutive code numbers	6	75
2070	−18			80
2180				84
2300				89
2500				97
2700	+34	Any four consecutive code numbers	8	105
2870	−20			111
3090				120
3200	+40			124
3500	−22			136
3700				144
4060	+46	Any five consecutive code numbers	10	158
4430	−24			173
4610				180
5000	+54			195
5370	−30			210
6070				238

Table 3E. 'C' section V-belts. Standard pitch lengths and permissible length variations

Nominal pitch length	Pitch length variation	Maximum pitch length variation within a matched set		Equivalent designation in Table 3, BS 1440, 1968 (inside length)
		Code numbers		
mm	mm		mm	in
1 560	+22 −12	Any two consecutive code numbers	4	59
1 760	+22 −16			67
1 950	+34 −18	Any three consecutive code numbers	6	75
2 090				80
2 190				84
2 340				90
2 490				96
2 720	+34 −20	Any four consecutive code numbers	8	105
2 880				111
3 080				119
3 310	+40 −22			128
3 520				136
3 710				144
4 060	+46 −24	Any five consecutive code numbers	10	158
4 450				173
4 600				179
5 010	+54 −30			195
5 380				210
6 100				238
6 860	+56 −32			268
7 600	+60 −36	Any six consecutive code numbers	12	297
9 100	+68 −36			356
10 700	+90 −50	Any seven consecutive code numbers	14	420

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Table 3F. 'D' section V-belts. Standard pitch lengths and permissible length variations

Nominal pitch length	Pitch length variation	Maximum pitch length variation within a matched set		Equivalent designation in Table 3, BS 1440, 1968 (inside length)
		Code numbers		
mm	mm		mm	in
2 740	+34	Any four consecutive	8	105
3 130	−20	code numbers		120
3 330	+40			128
3 730	−22			144
4 080	+46	Any five consecutive	10	158
4 620	−24	code numbers		179
5 400	+54			210
6 100	−30			237
6 840	+56			266
	−32			
7 620	+60	Any six consecutive	12	297
	−36	code numbers		
8 410	+68			328
9 140	−36			357
10 700	+90	Any seven consecutive	14	418
12 200	−50	code numbers		478
13 700	+114			538
15 200	−76			598

Pulleys for V-belts

Materials, finish and tolerances

Materials. V-pulleys shall be made of materials having suitable strength to provide for the power and speed requirements given in Tables 9A to 9F, together with adequate wearing properties of the groove, e.g. cast iron not inferior to BS 1452 ' Grey iron castings ', Grade 12 for belt speeds up to 25 m/s and Grade 17 for belt speeds from 25 m/s up to 30 m/s. For belt speeds above 30 m/s special pulleys may be necessary. If steel is used for pulleys, the grooved surface shall have a Brinell hardness number not less than 130 BHN.

For ' Y ' and ' Z ' sections it is recognized that other materials are used. Where this is the case, the properties of the material used should be considered in relation to the severity of the drive, in order to ensure adequate performance. Pressed steel pulleys, as shown in Fig. 4, are normally used only for ' Y ' and ' Z ' sections.

Finish. Machining of the face or periphery and of the bore shall be of fine finish and the surface finish of the sides of the grooves shall not exceed 3 μm, when determined by the methods specified in BS 1134 ' Assessment of surface texture ' (see Section 2).

The sharp corners at the top of the grooves shall be removed. The outside diameter of the pulley shall be constant throughout the whole of the width. Pulleys shall be machined all over as far as possible. Chambered bores are acceptable provided the width of the chamber is not greater than one third of the bore's length.

Tolerances. The tolerances for side wobble and also for run-out (eccentricity) shall be 0.001 mm per millimetre of pulley diameter up to 500 mm pulley diameter. The tolerances shall be 0.0015 mm per millimetre over 500 mm pulley diameter up to 1500 mm pulley diameter. The tolerances shall be 0.002 mm per millimetre over 1500 mm pulley diameter.

Balancing of pulleys

Pulleys shall be balanced either statically or dynamically in accordance with the methods given in ' Static balancing ' and ' Dynamic balancing '.

Static balancing. This operation, which only eliminates the resultant of the static unbalanced forces, is generally adequate if the speed is below 10 m/s or if the ratio of the face width to the outside diameter is less than the minimum value in relation to the peripheral speed given in Fig. 2.

Dynamic balancing. This operation, which eliminates not only the resultant but also any couple resulting from elementary centrifugal forces, is generally necessary when the ratio of the face width to the diameter is greater than the values at the speed given in Fig. 2.

Ratio values for intermediate pulley diameters shall be pro rata.

Ratio values for other speeds (higher or lower) shall be inversely proportional to the square of the speed.

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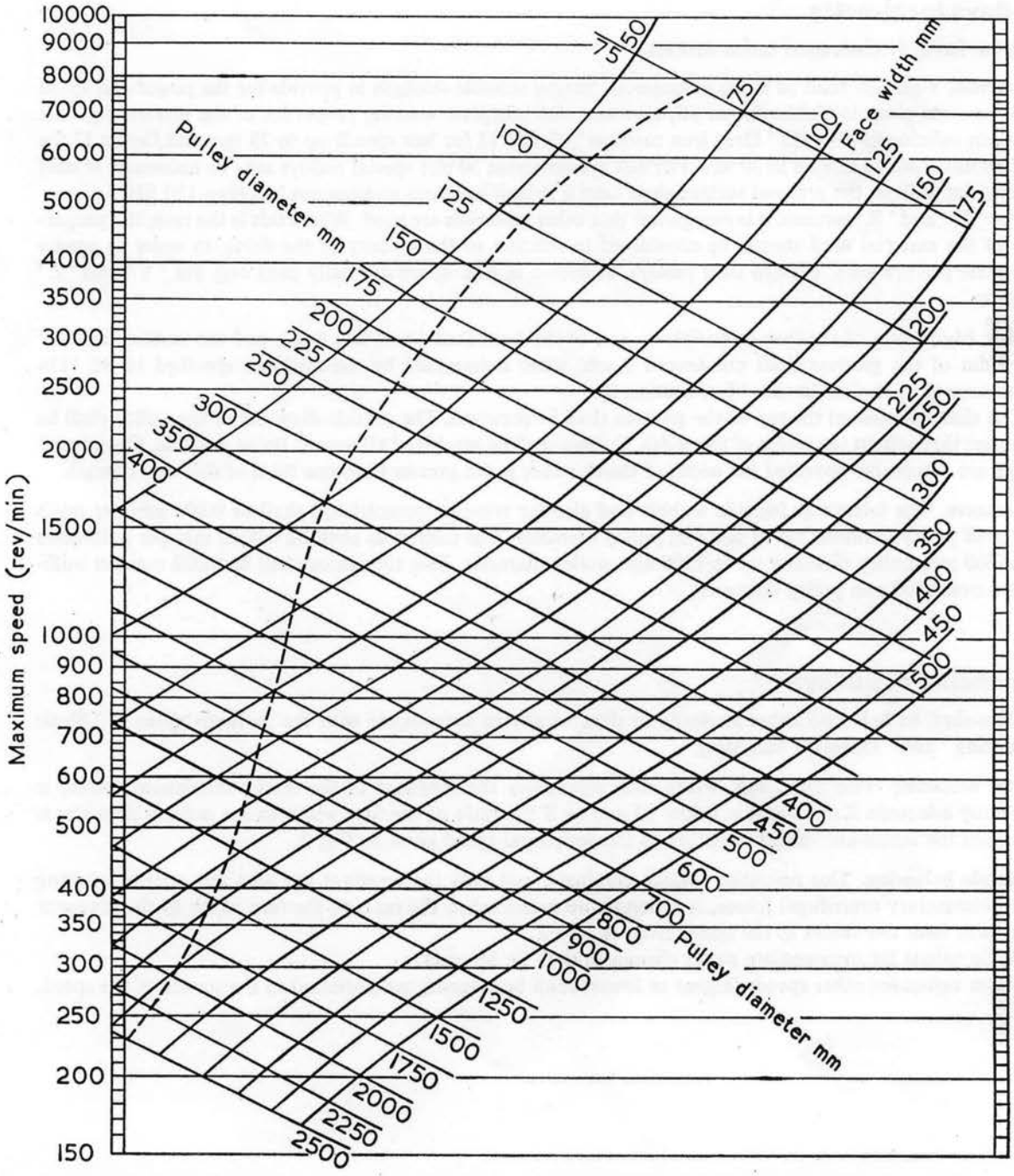
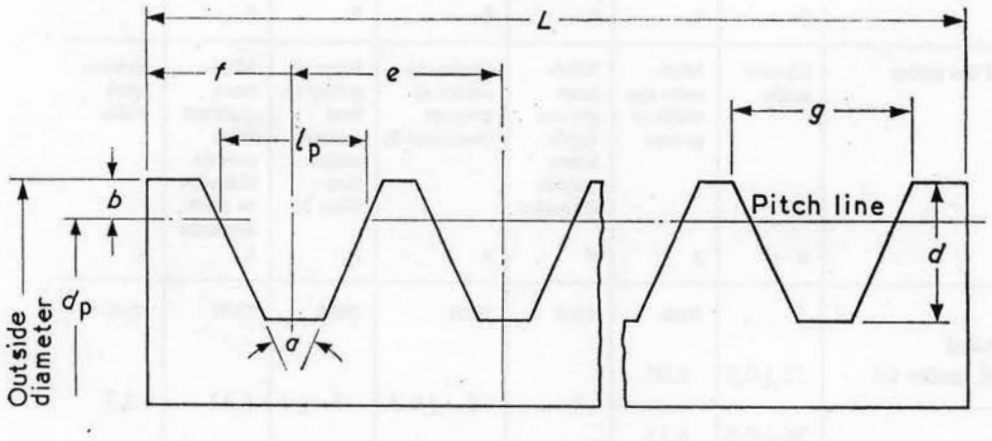


NOTE 1. Speed in excess of intersection of pulley diameter and face width lines indicates that dynamic balancing is desirable.
NOTE 2. Broken line indicates normal maximum speed for cast iron pulleys (30 m/s).

Fig. 2. Pulleys requiring dynamic balancing



The maximum distance L between the outside edges of the pulley, i.e. the face width, is equal to $(x - 1)\,e + 2f$ where x = the number of grooves.

Fig. 3. Multi-groove pulley cross section

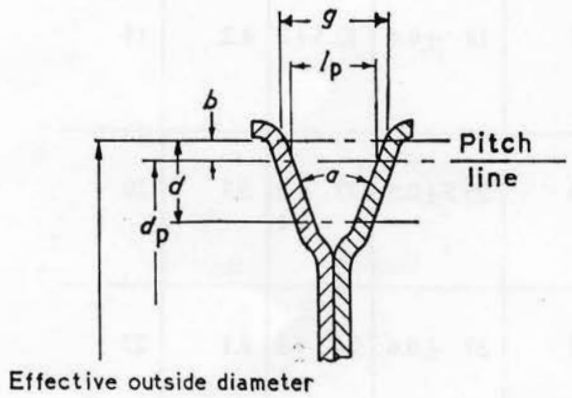


Fig. 4. Pressed steel pulley cross section for 'Y' and 'Z' sections

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Table 4. Dimensions of standard V-grooved pulleys

(See Table 5 for recommended standard pulley outside and pitch diameters)

1	2	3	4	5	6	7	8	9
Groove cross section symbol	Pitch diameter of the pulley	Groove angle	Minimum top width of groove	Minimum groove depth below outside diameter	Centre-to-centre of grooves (see Note 2)	Edge of pulley to first groove centre (see Note 3)	Minimum distance from outside diameter to pitch diameter	Groove pitch width
	d_p	a	g	d	e	f	b	l_p
	mm	°	mm	mm	mm	mm	mm	mm
Y	20 (recommended minimum) and under 63	32±0.5	6.05	6	8 ±0.3	7 ±1	1.32	5.3
	63 and over	36±0.5	6.15					
Z	50 (recommended minimum) and under 90	34±0.5	9·78	9	12 ±0.3	8 ±1	2.08	8.5
	90 and over	38±0.5	9.96					
A	75 (recommended minimum) and under 125	34±0.5	13.0	12	15 ±0.3	10 +2 −1	3.3	11
	125 and over	38±0.5	13.3					
B	125 (recommended minimum) and under 200	34±0.5	16.6	15	19 ±0.4	12.5+2 −1	4.2	14
	200 and over	38±0.5	16.9					
C	200 (recommended minimum) and under 300	36±0.5	22.7	20	25.5±0.5	17 +2 −1	5.7	19
	300 and over	38±0.5	22.9					
D	355 (recommended minimum) and under 500	36±0.5	32.3	28	37 ±0.6	24 +3 −1	8.1	27
	500 and over	38±0.5	32.6					

NOTE 1. See Figs. 3 and 4 for symbols.

NOTE 2. The tolerances on dimension e apply to the distance between the centres of any two grooves whether consecutive or not.

NOTE 3. It is recommended that the tolerance on dimension f should be taken into account in the alignment of pulleys.

Table 5. Recommended standard pulley outside diameters and pitch diameters

'Y' Section		'Z' Section		'A' Section		'B' Section		'C' Section		'D' Section	
outside diameter	pitch diameter	outside diameter	pitch diameter	outside diameter	pitch diameter	outside diameter	pitch diameter	outside diameter	pitch diameter	outside diameter	pitch diameter
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
22.6	20	54.2	50	81.6	75	133.4	125	211.4	200	371.2	355
25.0	22.4	57.2	53	86.6	80	140.4	132	223.2	212	391.2	375
27.6	25	60.2	56	91.6	85	148.4	140	235.4	224	416.2	400
30.6	28	64.2	60	96.6	90	158.4	150	247.4	236	441.2	425
34.1	31.5	67.2	63	101.6	95	168.4	160	261.4	250	461.2	450
38.1	35.5	71.2	67	106.6	100	178.4	170	276.4	265	491.2	475
42.6	40	75.2	71	112.6	106	188.4	180	291.4	280	516.2	500
47.6	45	79.2	75	118.6	112	198.4	190	311.4	300	546.2	530
52.6	50	84.2	80	124.6	118	208.4	200	326.4	315	576.2	560
58.6	56	94.2	90	131.6	125	232.4	224	366.4	355	616.2	600
65.6	63	104.2	100	138.6	132	258.4	250	386.4	375	646.2	630
73.6	71	116.2	112	146.6	140	288.4	280	411.4	400	726.2	710
82.6	80	129.2	125	156.6	150	308.4	300	461.4	450	766.2	750
92.6	90	144.2	140	166.6	160	323.4	315	511.4	500	816.2	800
102.6	100	164.2	160	176.6	170	363.4	355	541.4	530	916.2	900
114.6	112	184.2	180	186.6	180	388.4	375	571.4	560	1016	1000
127.6	125	204.2	200	196.6	190	408.4	400	611.4	600	1076	1060
		228.2	224	206.6	200	458.4	450	641.4	630	1136	1120
		254.2	250	236.6	224	508.4	500	721.4	710	1266	1250
				256.6	250	538.4	530	761.4	750	1416	1400
				286.6	280	568.4	560	811.4	800	1516	1500
				306.6	300	608.4	600	911.4	900	1616	1600
				321.6	315	638.4	630	1011	1000	1816	1800
				361.6	355	718.4	710	1131	1120	2016	2000
				406.6	400	758.4	750	1261	1250	—	—
				456.6	450	808.4	800	1411	1400	—	—
				516.6	500	908.4	900	1611	1600	—	—
				566.6	560	1008	1000	—	—	—	—
				636.6	630	1128	1120	—	—	—	—
				716.6	710	—	—	—	—	—	—
				806.6	800	—	—	—	—	—	—

NOTE. Tolerance on the pitch diameter should be $-0+1.6\%$.

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Appendix A

Recommendations and drive design examples for power application of V-belt drives

The design power is the prime mover power multiplied by the service factor shown in Table 6A or 6B for the appropriate type of service, taking into account the operational hours per day.

The recommended power ratings of single V-belts of a specific length and with 180° arc of contact are given in Tables 9A to 9F inclusive.

For other belt lengths and other arcs of contact, correction factors as given in Table 7A or 7B and Table 8 need to be applied.

In case of multi-belt drives, these ratings only apply to belts which are matched for length in accordance with the requirements of Tables 3A to 3F.

Pitch lengths of belts corresponding to given pulley diameters and centre distances may be obtained by the following formula:

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

where L = pitch length of belt,
D = pitch diameter of larger pulley,
d = pitch diameter of smaller pulley, and
C = centre distance of drive
(using the same units in each case).

Centre distances may be calculated from the following formula:

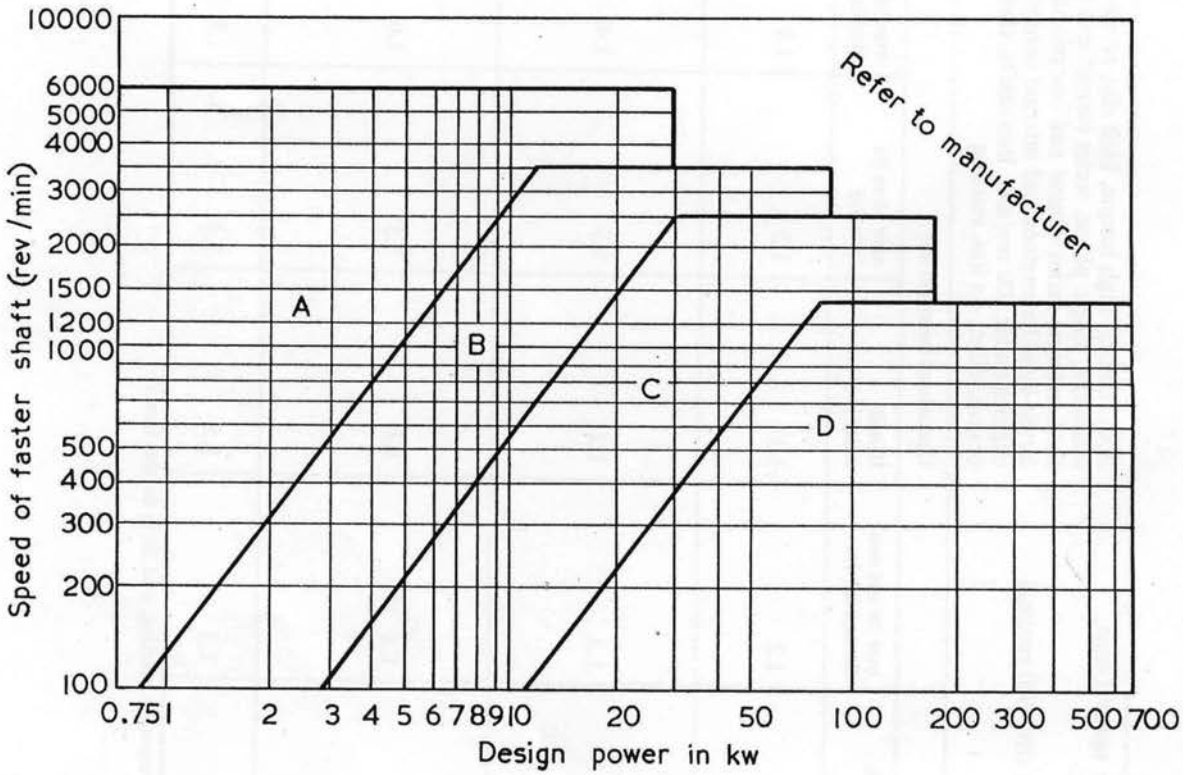
centre distance $C = A + \frac{1}{4}\sqrt{(A^2 - B)}$,

where $A = \frac{L}{4} - \frac{\pi\,(D + d)}{8}$,

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

D = pitch diameter of larger pulley,
d = pitch diameter of smaller pulley,
L = pitch length of belt
(using the same units in each case).

Selection of the most favourable V-belt section can be facilitated by the use of Fig. 5. In borderline cases, alternative design calculations may be necessary to determine the best solution of a drive problem.



NOTE. 'Y' and 'Z' section belts should be used for low power, small pulley diameter applications, and should be selected only when pulley diameters are smaller than recommended minimum for 'A' section belts (see Tables 9A and 9B for 'Y' and 'Z' section power ratings).

Fig. 5. Selection of V-belt cross section

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Table 6A. Service factors for drives using 'A', 'B', 'C' or 'D' section V-belts

Types of driven machines		Types of driving units					
		A.C. motors; normal torque squirrel cage, synchronous and split phase. D.C. motors; shunt wound. Internal combustion engines over 600 rev/min			A.C. motors; high torque, high slip, repulsion-induction, single phase, series wound and slip ring. D.C. motors; series wound and compound wound. Single-cylinder engines and internal combustion engines under 600 rev/min, line shafts, clutches, brakes, direct on line starting		
		Operational hours per day			Operational hours per day		
		10 and under	over 10 to 16 inclusive	over 16 and continuous service	10 and under	over 10 to 16 inclusive	over 16 and continuous service
Light duty	Agitators for liquids, blowers and exhausters, centrifugal pumps and compressors, fans up to 7.5 kW, light duty conveyors	1.0	1.1	1.2	1.1	1.2	1.3
Medium duty	Belt conveyors for sand, grain, etc. dough mixers, fans over 7.5 kW, generators, line shafts, laundry machinery, machine tools, punches, presses, shears, printing machinery, positive displacement rotary pumps, revolving and vibrating screens	1.1	1.2	1.3	1.2	1.3	1.4
Heavy duty	Brick machinery, bucket elevators, exciters, piston compressors, conveyors (drag-pan-screw), hammer mills, paper mill beaters, piston pumps, positive displacement blowers, pulverizers, saw-mill and woodworking machinery, textile machinery	1.2	1.3	1.4	1.4	1.5	1.6
Extra-heavy duty	Crushers (gyratory-jaw-roll), mills (ball-rod-tube), hoists, rubber calenders, extruders, mills	1.3	1.4	1.5	1.5	1.6	1.8

Special conditions. For speed-up and reversing drives, except where high torque is not present on starting, add 20% to the factors.
Idler pulley on slack side (internal), add 0 to the factors.
Idler pulley on slack side (external), add 0.1 to the factors.
Idler pulley on taut side (internal), add 0.1 to the factors.
Idler pulley on taut side (external), add 0.2 to the factors.

Table 6B. Service factors for drives using 'Y' or 'Z' section V-belts

Type of driven machine	Intermittent running	Continuous running
No shock loads, smooth running, e.g.: domestic washing machines, domestic ironers, small fans and blowers, advertising display fixtures	1.0	1.2
Moderate pulsating load or fairly heavy starting load, e.g.: fans and blowers (heavy rotors), centrifugal pumps, oil burners, home workshop machines, spin driers	1.2	1.4
Pulsating and shock loads, e.g.: stokers, reciprocating pumps and compressors, refrigerators, drill presses, grinders, lathes, meat slicers, machines for industrial use	1.4	1.6

See next page

Table 7A. Power correction factors for arc of contact

$\frac{D-d}{C}$	Arc of contact on smaller pulley	Correction factor, i.e. proportion of 180 ° rating
	°	
0.00	180	1.00
0.05	177	0.99
0.10	174	0.99
0.15	171	0.98
0.20	169	0.97
0.25	166	0.97
0.30	163	0.96
0.35	160	0.95
0.40	157	0.94
0.45	154	0.93
0.50	151	0.93
0.55	148	0.92
0.60	145	0.91
0.65	142	0.90
0.70	139	0.89
0.75	136	0.88
0.80	133	0.87
0.85	130	0.86
0.90	127	0.85
0.95	123	0.83
1.00	120	0.82

NOTE. Arcs of contact below 120 ° should not be used unless full drive details are first submitted to the V-drive manufacturer.

Table 7B. Power correction factors for arc of contact (based on pulley diameters and centre distance)

NOTE. Multiply power at 180 ° by factor from table to obtain power at given conditions.

Difference in pulley diameters (D–d)	Drive centre distance C											
	250	375	500	625	750	1000	1250	1500	1750	2000	2250	2500
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
50	0.97	0.98	0.99	0.99	0.99	0.99	0.99					
100	0.94	0.96	0.97	0.98	0.98	0.99	0.99					
150	0.91	0.94	0.96	0.97	0.97	0.98	0.98					
200	0.87	0.92	0.94	0.95	0.96	0.97	0.98	0.98				
250	0.82	0.89	0.93	0.94	0.95	0.97	0.97	0.98				
300		0.87	0.91	0.93	0.94	0.96	0.97	0.97	0.98			
350		0.84	0.89	0.91	0.93	0.95	0.96	0.97	0.97			
400			0.87	0.90	0.92	0.94	0.95	0.96	0.97			
450			0.85	0.89	0.91	0.93	0.95	0.96	0.96	0.97		
500			0.82	0.87	0.89	0.93	0.94	0.95	0.96	0.97		
550				0.85	0.85	0.92	0.94	0.95	0.96	0.96	0.97	
600				0.83	0.87	0.91	0.93	0.94	0.95	0.96	0.97	
650				0.82	0.86	0.90	0.93	0.93	0.95	0.95	0.96	0.97
700					0.83	0.89	0.92	0.93	0.94	0.95	0.96	0.96
750					0.82	0.88	0.91	0.93	0.93	0.94	0.95	0.96
800						0.87	0.90	0.92	0.93	0.94	0.95	0.96
850						0.86	0.90	0.92	0.93	0.93	0.94	0.95
900						0.85	0.90	0.91	0.93	0.93	0.94	0.95
1050							0.86	0.89	0.91	0.92	0.93	0.94
1200							0.83	0.87	0.89	0.91	0.92	0.93
1350								0.85	0.88	0.90	0.91	0.92
1500								0.82	0.86	0.88	0.90	0.92
1650									0.83	0.86	0.88	0.90
1800										0.85	0.87	0.89
1950										0.83	0.85	0.87
2100											0.83	0.86
2250											0.82	0.85
2400												0.83

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Table 8. Power correction factors for belt pitch length

Belt cross section symbol

Y		Z		A		B		C		D	
Pitch length	Factor	Pitch length	Factor	Pitch length	Factor	Pitch length	Factor	Pitch length	Factor	Pitch length	Factor
mm		mm		mm		mm		mm		mm	
200	0.81	405	0.86	630	0.80	930	0.81	1 560	0.82	2 740	0.82
225	0.82	475	0.90	700	0.82	1000	0.83	1 760	0.84	3 130	0.86
250	0.84	530	0.92	790	0.84	1100	0.85	1 950	0.87	3 330	0.87
280	0.87	625	0.95	890	0.86	1210	0.87	2 090	0.88	3 730	0.90
315	0.89	700	0.98	990	0.88	1370	0.90	2 190	0.90	4 080	0.92
355	0.92	780	1.00	1100	0.90	1440	0.90	2 340	0.91	4 620	0.94
400	0.96	920	1.04	1250	0.93	1560	0.92	2 490	0.92	5 400	0.97
450	1.00	1080	1.07	1430	0.96	1690	0.94	2 720	0.94	6 100	1.00
500	1.02			1550	0.98	1760	0.95	2 800	0.95	6 840	1.03
				1640	0.99	1950	0.97	3 080	0.96	7 620	1.05
				1750	1.00	2070	0.98	3 310	0.98	8 410	1.07
				1940	1.02	2180	0.99	3 520	0.99	9 140	1.09
				2050	1.04	2300	1.00	3 710	1.00	10 700	1.12
				2200	1.05	2500	1.02	4 060	1.02	12 200	1.16
				2300	1.06	2700	1.04	4 450	1.04	13 700	1.18
				2480	1.08	2870	1.05	4 600	1.05	15 200	1.20
				2570	1.09	3090	1.07	5 010	1.07		
				2700	1.10	3200	1.08	5 380	1.08		
				2910	1.12	3500	1.10	6 100	1.11		
				3080	1.13	3700	1.11	6 860	1.14		
				3290	1.14	4060	1.13	7 600	1.16		
				3540	1.16	4430	1.15	9 100	1.21		
						4610	1.16	10 700	1.24		
						5000	1.18				
						5370	1.19				
						6070	1.20				

Table 9A. Power rating for 'Y' section V-belts, 6.5 mm wide, with 180° arc of contact on smaller pulley

Speed of faster shaft	Smaller pulley pitch diameter (mm)									Additional power per belt for speed ratio									
	20	22.4	25	28*	31.5*	35.5*	40*	45	50*	1.0 to 1.02	1.021 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.5	1.51 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
960	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1440	0.02	0.03	0.04	0.05	0.06	0.06	0.08	0.10	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
2880	0.04	0.06	0.07	0.08	0.10	0.11	0.14	0.16	0.19	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02
400	—	—	—	—	—	—	—	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600	—	—	—	—	0.03	0.04	0.04	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800	—	—	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1000	0.02	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
1200	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
1400	0.02	0.03	0.04	0.04	0.06	0.06	0.08	0.09	0.11	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01
1600	0.03	0.04	0.05	0.05	0.06	0.07	0.09	0.11	0.12	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
1800	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.12	0.13	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
2000	0.03	0.04	0.05	0.06	0.07	0.08	0.11	0.12	0.14	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02
2200	0.03	0.05	0.06	0.07	0.08	0.09	0.12	0.13	0.15	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02
2400	0.04	0.05	0.06	0.07	0.09	0.09	0.12	0.14	0.16	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02
2600	0.04	0.05	0.07	0.08	0.09	0.10	0.13	0.15	0.17	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02
2800	0.04	0.06	0.07	0.08	0.10	0.11	0.14	0.16	0.18	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02
3000	0.05	0.06	0.07	0.09	0.10	0.11	0.15	0.16	0.19	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02
3200	0.05	0.07	0.08	0.09	0.11	0.12	0.15	0.17	0.20	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02
3400	0.05	0.07	0.08	0.10	0.11	0.13	0.16	0.18	0.21	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03
3600	0.06	0.07	0.08	0.10	0.12	0.13	0.16	0.19	0.22	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03
3800	0.06	0.08	0.09	0.10	0.12	0.14	0.17	0.19	0.22	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
4000	0.06	0.08	0.09	0.11	0.13	0.14	0.18	0.20	0.23	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
4500	0.07	0.09	0.10	0.12	0.14	0.16	0.19	0.21	0.24	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
5000	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23	0.25	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03

* Preferred pulley diameters

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Table 9B. Power rating for 'Z' section V-belts, 10 mm wide, with 180° arc of contact on smaller pulley

Speed of faster shaft	Smaller pulley pitch diameter (mm)						Additional power per belt for speed ratio									
	50	56	63*	71*	80*	90	1.0 to 1.02	1.03 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.5	1.51 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
960	0.12	0.14	0.18	0.23	0.26	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02
1440	0.16	0.19	0.25	0.30	0.35	0.36	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03
2880	0.26	0.34	0.41	0.50	0.56	0.60	0.00	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04
400	0.06	0.06	0.08	0.09	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
600	0.08	0.09	0.11	0.14	0.18	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
800	0.10	0.12	0.15	0.20	0.22	0.24	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02
1000	0.12	0.14	0.18	0.23	0.26	0.28	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02
1200	0.14	0.17	0.22	0.27	0.30	0.33	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03
1400	0.16	0.19	0.25	0.30	0.35	0.36	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03
1600	0.17	0.20	0.27	0.33	0.39	0.40	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
1800	0.18	0.23	0.30	0.36	0.42	0.44	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03
2000	0.20	0.25	0.32	0.39	0.44	0.48	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.04
2200	0.21	0.27	0.35	0.43	0.47	0.51	0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.04
2400	0.22	0.30	0.37	0.46	0.50	0.54	0.00	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04
2600	0.24	0.32	0.39	0.48	0.53	0.57	0.00	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04
2800	0.26	0.33	0.41	0.50	0.56	0.60	0.00	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.04
3000	0.28	0.34	0.43	0.52	0.58	0.62	0.00	0.01	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.05
3200	0.28	0.35	0.45	0.54	0.61	0.64	0.00	0.01	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05
3400	0.29	0.36	0.46	0.56	0.62	0.66	0.00	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
3600	0.30	0.37	0.47	0.58	0.64	0.68	0.00	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.05
3800	0.31	0.38	0.48	0.60	0.66	0.70	0.00	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.05	0.05
4000	0.32	0.39	0.49	0.61	0.67	0.72	0.00	0.02	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06
4500	0.33	0.40	0.50	0.62	0.67	0.73	0.00	0.02	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.06
5000	0.34	0.41	0.50	0.62	0.66	0.73	0.00	0.02	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.06

* Preferred pulley diameters

Table 9C. Power rating for 'A' section V-belts, 13 mm wide, with 180° arc of contact on smaller pulley

Speed of faster shaft	Smaller pulley pitch diameter (mm)									Additional power per belt for speed ratio									
	75	80	85	90*	100*	106*	112*	118*	125*	1.00 to 1.01	1.02 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.51	1.52 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	0.53	0.60	0.68	0.75	0.90	0.99	1.07	1.16	1.26	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
960	0.66	0.76	0.86	0.95	1.14	1.25	1.37	1.49	1.61	0.00	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12
1440	0.91	1.04	1.17	1.31	1.58	1.73	1.90	2.07	2.24	0.00	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.17
2880	1.42	1.67	1.91	2.14	2.59	2.76	3.11	3.36	3.63	0.00	0.04	0.08	0.12	0.16	0.20	0.23	0.27	0.31	0.35
100	0.11	0.12	0.13	0.14	0.17	0.18	0.20	0.21	0.23	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
200	0.19	0.22	0.24	0.26	0.31	0.33	0.36	0.39	0.42	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03
300	0.26	0.29	0.33	0.37	0.43	0.46	0.51	0.55	0.60	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04
400	0.33	0.37	0.42	0.46	0.55	0.60	0.66	0.71	0.77	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05
500	0.39	0.45	0.51	0.56	0.67	0.72	0.79	0.86	0.93	0.00	0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.06
600	0.46	0.52	0.59	0.65	0.78	0.85	0.93	1.00	1.08	0.00	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.07
700	0.52	0.59	0.66	0.74	0.88	0.96	1.05	1.14	1.23	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
800	0.57	0.66	0.74	0.82	0.98	1.08	1.18	1.27	1.38	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.10
900	0.63	0.72	0.81	0.90	1.08	1.18	1.30	1.41	1.52	0.00	0.01	0.02	0.04	0.05	0.06	0.07	0.08	0.10	0.11
1000	0.68	0.78	0.88	0.98	1.18	1.29	1.42	1.54	1.66	0.00	0.01	0.03	0.04	0.05	0.07	0.08	0.09	0.11	0.12
1100	0.73	0.84	0.95	1.06	1.28	1.40	1.53	1.66	1.80	0.00	0.02	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.13
1200	0.78	0.90	1.02	1.13	1.37	1.50	1.64	1.78	1.93	0.00	0.02	0.03	0.05	0.07	0.08	0.10	0.11	0.13	0.15
1300	0.83	0.95	1.10	1.21	1.45	1.60	1.75	1.90	2.06	0.00	0.02	0.04	0.05	0.07	0.09	0.11	0.12	0.14	0.16
1400	0.88	1.01	1.15	1.28	1.54	1.69	1.86	2.02	2.19	0.00	0.02	0.04	0.06	0.08	0.09	0.11	0.13	0.15	0.17
1500	0.92	1.07	1.21	1.35	1.63	1.79	1.96	2.13	2.31	0.00	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18
1600	0.97	1.12	1.27	1.42	1.72	1.89	2.06	2.24	2.43	0.00	0.02	0.04	0.06	0.09	0.11	0.13	0.15	0.17	0.19
1700	1.01	1.17	1.33	1.48	1.79	1.97	2.16	2.35	2.54	0.00	0.02	0.05	0.07	0.09	0.11	0.14	0.16	0.18	0.21
1800	1.05	1.22	1.39	1.55	1.88	2.07	2.26	2.46	2.66	0.00	0.02	0.05	0.07	0.10	0.12	0.15	0.17	0.19	0.22
1900	1.09	1.27	1.44	1.61	1.95	2.14	2.35	2.56	2.77	0.00	0.03	0.05	0.08	0.10	0.13	0.15	0.18	0.20	0.23
2000	1.13	1.31	1.50	1.68	2.03	2.23	2.44	2.65	2.87	0.00	0.03	0.05	0.08	0.11	0.13	0.16	0.19	0.22	0.24
2100	1.17	1.36	1.55	1.74	2.10	2.31	2.53	2.75	2.98	0.00	0.03	0.06	0.09	0.11	0.14	0.17	0.20	0.23	0.25
2200	1.21	1.40	1.60	1.79	2.17	2.38	2.61	2.84	3.07	0.00	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27
2300	1.24	1.45	1.65	1.85	2.24	2.46	2.69	2.93	3.16	0.00	0.03	0.06	0.09	0.12	0.16	0.18	0.22	0.25	0.28
2400	1.28	1.48	1.70	1.90	2.31	2.54	2.78	3.02	3.26	0.00	0.03	0.07	0.10	0.13	0.16	0.19	0.23	0.26	0.29
2500	1.31	1.53	1.75	1.95	2.37	2.61	2.85	3.09	3.34	0.00	0.03	0.07	0.10	0.14	0.17	0.20	0.24	0.27	0.30
2600	1.34	1.57	1.80	2.01	2.43	2.67	2.92	3.17	3.42	0.00	0.04	0.07	0.11	0.14	0.17	0.21	0.24	0.28	0.31
2700	1.37	1.60	1.84	2.06	2.49	2.74	2.99	3.25	3.51	0.00	0.04	0.07	0.11	0.15	0.18	0.22	0.25	0.29	0.33

* Preferred pulley diameters

See next page

Table 9C. Power rating for 'A' section V-belts, 13 mm wide, with 180° arc of contact on smaller pulley (*continued*)

Speed of faster shaft	Smaller pulley pitch diameter (mm)									Additional power per belt for speed ratio									
	75	80	85	90*	100*	106*	112*	118*	125*	1.00 to 1.01	1.02 to 1.04	1.05 to 1,08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.51	1.52 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2800	1.40	1.64	1.88	2.10	2.55	2.80	3.06	3.31	3.57	0.00	0.04	0.08	0.11	0.15	0.19	0.23	0.26	0.30	0.34
2900	1.43	1.67	1.91	2.15	2.60	2.86	3.12	3.38	3.65	0.00	0.04	0.08	0.12	0.16	0.19	0.23	0.27	0.30	0.35
3000	1.46	1.71	1.95	2.19	2.66	2.92	3.18	3.45	3.72	0.00	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.36
3100	1.48	1.74	1.98	2.23	2.71	2.98	3.24	3.50	3.77	0.00	0.04	0.08	0.13	0.17	0.21	0.25	0.29	0.33	0.37
3200	1.51	1.77	2.02	2.28	2.75	3.03	3.29	3.56	3.83	0.00	0.04	0.09	0.13	0.17	0.22	0.26	0.30	0.34	0.39
3300	1.53	1.80	2.06	2.31	2.80	3.07	3.34	3.61	3.88	0.00	0.04	0.09	0.13	0.18	0.22	0.27	0.31	0.35	0.40
3400	1.55	1.82	2.10	2.34	2.83	3.11	3.39	3.65	3.92	0.00	0.05	0.09	0.14	0.18	0.23	0.27	0.32	0.37	0.41
3500	1.57	1.85	2.12	2.38	2.87	3.15	3.43	3.70	3.97	0.00	0.05	0.09	0.14	0.19	0.24	0.28	0.33	0.38	0.42
3600	1.59	1.87	2.14	2.41	2.91	3.19	3.47	3.73	4.00	0.00	0.05	0.10	0.15	0.19	0.24	0.29	0.34	0.39	0.44
3700	1.61	1.89	2.17	2.44	2.95	3.22	3.50	3.77	4.04	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45
3800	1.62	1.92	2.19	2.46	2.98	3.25	3.53	3.80	4.06	0.00	0.05	0.10	0.15	0.20	0.26	0.31	0.36	0.41	0.46
3900	1.64	1.93	2.22	2.49	2.99	3.28	3.56	3.82	4.08	0.00	0.05	0.11	0.16	0.21	0.26	0.31	0.37	0.42	0.47
4000	1.65	1.95	2.24	2.51	3.03	3.30	3.58	3.84	4.10	0.00	0.05	0.11	0.16	0.22	0.27	0.32	0.38	0.43	0.48
4100	1.67	1.96	2.25	2.53	3.05	3.32	3.60	3.85	4.10	0.00	0.06	0.11	0.17	0.22	0.28	0.33	0.39	0.44	0.50
4200	1.68	1.98	2.27	2.55	3.07	3.35	3.61	3.85	4.10	0.00	0.06	0.11	0.17	0.23	0.28	0.34	0.40	0.45	0.51
4300	1.69	1.99	2.28	2.57	3.08	3.35	3.62	3.85	4.10	0.00	0.06	0.12	0.17	0.23	0.29	0.35	0.40	0.46	0.52
4400	1.69	2.00	2.30	2.57	3.09	3.35	3.63	3.85	4.10	0.00	0.06	0.12	0.18	0.24	0.30	0.35	0.41	0.47	0.53
4500	1.70	2.01	2.31	2.59	3.10	3.35	3.63	3.85	4.07	0.00	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54
4600	1.71	2.01	2.31	2.60	3.10	3.34	3.63	3.84	4.06	0.00	0.06	0.12	0.19	0.25	0.31	0.37	0.43	0.49	0.56
4700	1.71	2.02	2.32	2.60	3.10	3.34	3.62	3.82		0.00	0.06	0.13	0.19	0.23	0.32	0.38	0.44	0.51	0.57
4800	1.71	2.02	2.32	2.60	3.10	3.33	3.60	3.81		0.00	0.06	0.13	0.19	0.26	0.32	0.39	0.45	0.52	0.58
4900	1.71	2.02	2.32	2.60	3.10	3.32	3.58	3.79		0.00	0.07	0.13	0.20	0.26	0.33	0.39	0.46	0.53	0.59
5000	1.71	2.02	2.32	2.60	3.09	3.32	3.56	3.77		0.00	0.07	0.14	0.20	0.27	0.34	0.40	0.47	0.54	0.60

* Preferred pulley diameters

Table 9D. Power rating for 'B' section V-belts, 17 mm wide, with 180° arc of contact on smaller pulley

Speed of faster shaft	Smaller pulley pitch diameter (mm)									Additional power per belt for speed ratio									
	125	132	140*	150*	160*	170*	180*	190	200*	1.00 to 1.01	1.02 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.51	1.52 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	1.61	1.79	1.99	2.24	2.48	2.73	2.97	3.21	3.45	0.00	0.03	0.05	0.08	0.10	0.13	0.15	0.18	0.20	0.23
960	2.02	2.24	2.50	2.82	3.13	3.44	3.75	4.05	4.35	0.00	0.03	0.07	0.10	0.14	0.17	0.20	0.24	0.27	0.30
1440	2.72	3.03	3.39	3.83	4.26	4.68	5.09	5.50	5.90	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.36	0.41	0.46
2880	3.96	4.44	4.95	5.55	6.11	6.62	7.08	7.48		0.00	0.10	0.20	0.30	0.41	0.50	0.61	0.71	0.81	0.91
100	0.32	0.35	0.38	0.43	0.47	0.51	0.55	0.59	0.63	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
200	0.57	0.63	0.69	0.77	0.85	0.92	1.00	1.08	1.15	0.00	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.06
300	0.80	0.88	0.97	1.08	1.19	1.31	1.42	1.53	1.64	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
400	1.01	1.11	1.23	1.38	1.52	1.67	1.81	1.96	2.10	0.00	0.01	0.03	0.04	0.06	0.07	0.08	0.10	0.11	0.13
500	1.21	1.33	1.48	1.66	1.84	2.01	2.19	2.36	2.54	0.00	0.02	0.04	0.05	0.07	0.09	0.11	0.12	0.14	0.16
600	1.40	1.55	1.72	1.93	2.14	2.35	2.55	2.76	2.96	0.00	0.02	0.04	0.06	0.08	0.11	0.13	0.15	0.17	0.19
700	1.58	1.75	1.94	2.19	2.43	2.66	2.90	3.13	3.37	0.00	0.02	0.05	0.07	0.10	0.12	0.15	0.17	0.20	0.22
800	1.75	1.94	2.16	2.44	2.70	2.97	3.24	3.50	3.78	0.00	0.03	0.06	0.08	0.11	0.14	0.17	0.20	0.23	0.25
900	1.92	2.13	2.37	2.68	2.97	3.27	3.56	3.85	4.13	0.00	0.03	0.06	0.10	0.13	0.16	0.19	0.22	0.25	0.29
1000	2.08	2.31	2.58	2.91	3.23	3.55	3.87	4.18	4.49	0.00	0.04	0.07	0.10	0.14	0.18	0.21	0.25	0.28	0.32
1100	2.23	2.49	2.78	3.13	3.48	3.83	4.17	4.51	4.84	0.00	0.04	0.08	0.12	0.16	0.19	0.23	0.27	0.31	0.35
1200	2.38	2.66	2.96	3.35	3.72	4.09	4.46	4.81	5.17	0.00	0.04	0.08	0.13	0.17	0.21	0.25	0.30	0.34	0.38
1300	2.53	2.82	3.15	3.55	3.95	4.34	4.73	5.11	5.48	0.00	0.05	0.09	0.14	0.18	0.23	0.27	0.32	0.37	0.41
1400	2.66	2.97	3.32	3.75	4.17	4.59	4.98	5.39	5.78	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.39	0.44
1500	2.79	3.12	3.49	3.94	4.38	4.82	5.24	5.66	6.06	0.00	0.05	0.10	0.16	0.21	0.26	0.32	0.37	0.42	0.48
1600	2.92	3.26	3.65	4.12	4.58	5.04	5.48	5.91	6.33	0.00	0.06	0.11	0.17	0.23	0.28	0.34	0.39	0.45	0.51
1700	3.04	3.40	3.80	4.29	4.77	5.24	5.70	6.14	6.58	0.00	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54
1800	3.15	3.52	3.94	4.45	4.95	5.44	5.90	6.36	6.80	0.00	0.06	0.13	0.19	0.25	0.32	0.38	0.44	0.51	0.57
1900	3.26	3.65	4.08	4.61	5.12	5.62	6.10	6.56	7.00	0.00	0.07	0.13	0.20	0.27	0.33	0.40	0.47	0.54	0.60
2000	3.36	3.76	4.21	4.75	5.28	5.78	6.27	6.74	7.19	0.00	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.63
2100	3.45	3.87	4.33	4.88	5.42	5.94	6.43	6.91	7.36	0.00	0.07	0.15	0.22	0.30	0.37	0.44	0.52	0.59	0.67
2200	3.54	4.00	4.44	5.01	5.55	6.07	6.58	7.05	7.50	0.00	0.08	0.16	0.23	0.31	0.39	0.46	0.54	0.62	0.70
2300	3.62	4.06	4.54	5.12	5.68	6.20	6.70	7.18	7.62	0.00	0.08	0.16	0.24	0.32	0.41	0.49	0.57	0.65	0.73
2400	3.70	4.14	4.63	5.22	5.78	6.31	6.81	7.28	7.72	0.00	0.08	0.17	0.25	0.34	0.42	0.51	0.59	0.68	0.76

* Preferred pulley diameters

Table 9D. Power rating for ' B ' section V-belts, 17 mm wide, with 180° arc of contact on smaller pulley (*continued*)

Speed of faster shaft	Smaller pulley pitch diameter (mm)									Additional power per belt for speed ratio									
	125	132	140*	150*	160*	170*	180*	190	200*	1.00 to 1.01	1.02 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.51	1.52 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2500	3.77	4.22	4.64	5.23	5.80	6.33	6.83	7.29	7.79	0.00	0.09	0.18	0.26	0.35	0.44	0.53	0.62	0.70	0.79
2600	3.82	4.28	4.79	5.39	5.95	6.48	6.97	7.42	7.83	0.00	0.09	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.82
2700	3.88	4.35	4.86	5.46	6.03	6.55	7.03	7.47	7.86	0.00	0.10	0.19	0.29	0.38	0.48	0.57	0.67	0.76	0.86
2800	3.93	4.40	4.91	5.52	6.08	6.60	7.06	7.48	7.85	0.00	0.10	0.20	0.29	0.39	0.49	0.59	0.69	0.79	0.89
2900	3.97	4.44	4.96	5.56	6.12	6.62	7.08	7.48		0.00	0.10	0.20	0.31	0.41	0.51	0.61	0.72	0.82	0.92
3000	4.00	4.48	4.99	5.59	6.14	6.63	7.07	7.44		0.00	0.11	0.21	0.32	0.42	0.53	0.63	0.74	0.85	0.95
3100	4.02	4.50	5.02	5.61	6.15	6.63	7.04			0.00	0.11	0.22	0.33	0.44	0.55	0.65	0.76	0.87	0.98
3200	4.04	4.52	5.03	5.62	6.14	6.60	6.99			0.00	0.11	0.23	0.34	0.45	0.56	0.68	0.79	0.90	1.01
3300	4.05	4.52	5.03	5.61	6.11	6.55				0.00	0.12	0.23	0.35	0.47	0.58	0.70	0.81	0.93	1.05
3400	4.05	4.52	5.02	5.58	6.07	6.48				0.00	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08
3500	4.04	4.50	5.00	5.55	6.01					0.00	0.12	0.25	0.37	0.49	0.62	0.74	0.86	0.99	1.11
3600	4.02	4.48	4.96	5.49						0.00	0.13	0.25	0.38	0.51	0.63	0.76	0.89	1.01	1.14
3700	3.99	4.45	4.92	5.43						0.00	0.13	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.17
3800	3.95	4.40	4.86	5.34						0.00	0.13	0.27	0.40	0.54	0.67	0.80	0.94	1.07	1.20
3900	3.91	4.34	4.76							0.00	0.14	0.28	0.41	0.55	0.69	0.82	0.96	1.10	1.24
4000	3.85	4.28	4.70							0.00	0.14	0.28	0.42	0.56	0.70	0.84	0.99	1.13	1.27
4100	3.78	4.20								0.00	0.14	0.29	0.43	0.58	0.72	0.87	1.01	1.16	1.30
4200	3.71	4.11								0.00	0.15	0.30	0.44	0.59	0.74	0.89	1.04	1.18	1.33
4300	3.62	4.00								0.00	0.15	0.30	0.45	0.61	0.76	0.91	1.06	1.21	1.36
4400	3.53									0.00	0.15	0.31	0.46	0.62	0.78	0.93	1.08	1.24	1.39
4500	3.42									0.00	0.16	0.32	0.48	0.63	0.79	0.95	1.11	1.27	1.43

* Preferred pulley diameters

Table 9E. Power rating for 'C' section V-belts, 22 mm wide, with 180° arc of contact on smaller pulley

Speed of faster shaft	Smaller pulley pitch diameter (mm)										Additional power per belt for speed ratio									
	200*	212*	224*	236*	250*	265*	280*	315*	355*	400*	1.00 to 1.01	1.02 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.51	1.52 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	4.65	5.18	5.70	6.22	6.81	7.44	8.06	9.49	11.05	12.75	0.00	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.63
960	5.76	6.42	7.08	7.72	8.46	9.24	10.00	11.72	13.58	15.51	0.00	0.09	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85
1440	7.49	8.36	9.21	10.03	10.95	11.91	12.82	14.76	16.67		0.00	0.14	0.28	0.42	0.56	0.71	0.85	0.99	1.13	1.27
100	0.93	1.02	1.11	1.20	1.30	1.42	1.53	1.78	2.07	2.39	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
200	1.66	1.83	2.00	2.16	2.36	2.57	2.77	3.25	3.79	4.39	0.00	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18
300	2.32	2.56	2.80	3.05	3.33	3.62	3.92	4.61	5.38	6.23	0.00	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.26
400	2.93	3.24	3.56	3.87	4.23	4.62	5.00	5.88	6.87	7.96	0.00	0.04	0.08	0.12	0.16	0.20	0.23	0.27	0.31	0.35
500	3.50	3.89	4.27	4.65	5.09	5.55	6.02	7.08	8.27	9.58	0.00	0.05	0.10	0.15	0.20	0.24	0.29	0.34	0.39	0.44
600	4.04	4.49	4.94	5.38	5.90	6.44	6.98	8.21	9.59	11.09	0.00	0.06	0.12	0.18	0.24	0.29	0.35	0.41	0.47	0.53
700	4.56	5.07	5.58	6.08	6.66	7.28	7.89	9.28	10.82	12.48	0.00	0.07	0.14	0.21	0.27	0.34	0.41	0.48	0.55	0.62
800	5.04	5.61	6.18	6.74	7.39	8.07	8.75	10.28	11.96	13.75	0.00	0.08	0.16	0.23	0.31	0.39	0.47	0.55	0.63	0.71
900	5.50	6.13	6.75	7.36	8.07	8.82	9.55	11.20	13.00	14.90	0.00	0.09	0.18	0.26	0.35	0.44	0.53	0.62	0.71	0.79
1000	5.93	6.61	7.29	7.95	8.71	9.51	10.29	12.05	13.94	15.90	0.00	0.10	0.20	0.29	0.39	0.49	0.59	0.69	0.78	0.88
1100	6.33	7.06	7.79	8.49	9.30	10.15	10.98	12.82	14.77	16.75	0.00	0.11	0.22	0.32	0.43	0.54	0.65	0.75	0.86	0.97
1200	6.71	7.49	8.25	9.00	9.85	10.74	11.60	13.50	15.48	17.43	0.00	0.12	0.24	0.35	0.47	0.59	0.70	0.82	0.94	1.06
1300	7.05	7.87	8.67	9.46	10.34	11.27	12.15	14.09	16.07	17.95	0.00	0.13	0.26	0.38	0.51	0.64	0.76	0.89	1.02	1.15
1400	7.37	8.23	9.06	9.87	10.79	11.74	12.64	14.59	16.52	18.27	0.00	0.14	0.27	0.41	0.55	0.69	0.82	0.96	1.10	1.23
1500	7.66	8.55	9.41	10.24	11.18	12.14	13.05	14.99	16.84		0.00	0.15	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32
1600	7.91	8.83	9.71	10.56	11.52	12.48	13.39	15.28	17.00		0.00	0.16	0.31	0.47	0.63	0.78	0.94	1.10	1.25	1.41
1700	8.14	9.07	9.97	10.83	11.79	12.75	13.65	15.46			0.00	0.17	0.33	0.50	0.67	0.83	1.00	1.17	1.33	1.50
1800	8.32	9.28	10.19	11.05	12.00	12.95	13.82	15.52			0.00	0.18	0.35	0.53	0.71	0.88	1.06	1.23	1.41	1.59
1900	8.48	9.44	10.35	11.22	12.15	13.07	13.90				0.00	0.19	0.37	0.56	0.75	0.93	1.12	1.30	1.49	1.67
2000	8.59	9.56	10.47	11.32	12.24	13.12	13.89				0.00	0.20	0.39	0.59	0.78	0.98	1.17	1.37	1.57	1.76
2100	8.67	9.64	10.54	11.37	12.25	13.08					0.00	0.21	0.41	0.62	0.82	1.03	1.23	1.44	1.65	1.85
2200	8.71	9.67	10.55	11.35	12.19						0.00	0.22	0.43	0.65	0.86	1.08	1.29	1.51	1.72	1.94
2300	8.71	9.65	10.50	11.27							0.00	0.23	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03
2400	8.67	9.58	10.40	11.12							0.00	0.23	0.47	0.70	0.94	1.18	1.41	1.65	1.88	2.12
2500	8.58	9.47	10.24								0.00	0.24	0.49	0.73	0.98	1.22	1.47	1.71	1.96	2.20
2600	8.45	9.30									0.00	0.25	0.51	0.76	1.02	1.27	1.53	1.78	2.04	2.29
2700	8.28	9.07									0.00	0.26	0.53	0.79	1.06	1.32	1.59	1.85	2.12	2.38
2800	8.05										0.00	0.27	0.55	0.82	1.10	1.37	1.64	1.92	2.19	2.47

* Preferred pulley diameters

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Table 9F. Power rating for 'D' section V-belts, 32 mm wide, with 180° arc of contact on smaller pulley

Speed of faster shaft	Smaller pulley pitch diameter (mm)										Additional power per belt for speed ratio									
	355*	375*	400*	425*	450*	475*	500*	530	560*	600*	1.00 to 1.01	1.02 to 1.04	1.05 to 1.08	1.09 to 1.12	1.13 to 1.18	1.19 to 1.24	1.25 to 1.34	1.35 to 1.51	1.52 to 1.99	2.00 and over
rev/min	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
720	16.26	17.90	19.90	21.85	23.75	25.59	27.38	29.44	31.42	33.91	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25
960	19.26	21.16	23.45	25.63	27.70	29.65	31.47	33.50	35.32		0.00	0.33	0.67	1.00	1.34	1.67	2.00	2.33	2.67	3.00
1440	21.22	23.03									0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
100	3.39	3.70	4.08	4.45	4.83	5.20	5.57	6.02	6.46	7.04	0.00	0.03	0.07	0.10	0.14	0.17	0.21	0.24	0.28	0.31
200	6.04	6.61	7.32	8.02	8.72	9.42	10.11	10.93	11.75	12.83	0.00	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.63
300	8.41	9.22	10.24	11.24	12.24	13.22	14.20	15.37	16.52	18.04	0.00	0.10	0.21	0.31	0.42	0.52	0.62	0.73	0.83	0.94
400	10.57	11.61	12.91	14.19	15.45	16.70	17.94	19.40	20.85	22.74	0.00	0.14	0.28	0.42	0.56	0.70	0.83	0.97	1.11	1.25
500	12.55	13.80	15.35	16.87	18.38	19.86	21.32	23.03	24.72	26.91	0.00	0.17	0.35	0.52	0.70	0.87	1.04	1.22	1.39	1.56
600	14.34	15.79	17.56	19.30	21.01	22.68	24.32	26.23	28.09	30.49	0.00	0.21	0.42	0.62	0.83	1.04	1.25	1.46	1.67	1.88
700	15.96	17.57	19.54	21.46	23.33	25.15	26.91	28.96	30.92	33.41	0.00	0.24	0.49	0.73	0.97	1.22	1.46	1.70	1.95	2.19
800	17.39	19.14	21.26	23.32	25.31	27.22	29.06	31.17	33.16	35.62	0.00	0.28	0.56	0.83	1.11	1.39	1.67	1.95	2.22	2.50
900	18.62	20.48	22.72	24.87	26.92	28.87	30.73	32.81	34.73	37.02	0.00	0.31	0.63	0.94	1.25	1.56	1.87	2.19	2.50	2.81
1000	19.64	21.57	23.88	26.07	28.14	30.07	31.86	33.82	35.57		0.00	0.35	0.70	1.04	1.39	1.74	2.08	2.43	2.78	3.13
1100	20.43	22.40	24.74	26.91	28.92	30.76	32.42				0.00	0.38	0.77	1.15	1.53	1.91	2.29	2.68	3.06	3.44
1200	20.98	22.96	25.26	27.36	29.25	30.92					0.00	0.42	0.84	1.25	1.67	2.09	2.50	2.92	3.34	3.75
1300	21.27	23.21	25.42	27.38							0.00	0.45	0.91	1.35	1.81	2.26	2.71	3.16	3.61	4.06
1400	21.29	23.15	25.21								0.00	0.49	0.98	1.46	1.95	2.43	2.92	3.40	3.89	4.38
1500	21.03	22.76									0.00	0.52	1.05	1.56	2.09	2.61	3.12	3.65	4.17	4.69
1600	20.46										0.00	0.56	1.11	1.67	2.23	2.78	3.33	3.89	4.45	5.00

* Preferred pulley diameters

Appendix B

Acceptance tests for electrical resistance of V-belts

Test pieces. The tests shall be carried out on new complete endless V-belts.

Testing instruments. The tests shall be carried out with an insulation tester having a nominal open circuit voltage of 500 V d.c., or with any suitable instrument known to give comparable results. In no case shall the voltage applied to the V-belt be less than 40 V.

The test instrument shall be sufficiently accurate to determine the resistance within 5% and shall not dissipate more than 3 W in the V-belt under test.

Mechanical conditioning. After being strained under the conditions specified in ' Determination of belt pitch length ', the belt shall be maintained in the unstrained state at a temperature between 15 °C and 25 °C for a period of not less than 24 h.

Preparation for test. After mechanical conditioning as described in Appendix B, ' Mechanical conditioning ', the V-belt shall be stored for not less than 2 h at a temperature of 20 ± 2 °C in air with a relative humidity of less than 70%.

The surfaces which are to be used in the test shall then be cleaned immediately with dry Fullers earth (B.P. grade) using a clean pad of cotton wool, care being taken to avoid straining the V-belt.

After all traces of powder have been cleaned away, the surfaces shall be wiped over with a pad moistened with distilled water and rubbed dry with a clean cloth.

Liquid electrodes and contacts. After the preparation of the V-belt for test in accordance with ' Preparation for test ', liquid electrodes shall be applied to two areas of the belt, each extending 25 mm along the length of the belt and across the full width of the surfaces which make contact with the pulley groove, and located so that the dry distance between them is 100 ± 6 mm.

The liquid electrodes shall comprise a conducting liquid consisting of:

Anhydrous polyethylene glycol of molecular weight 600	800 parts
Water	200 parts
Soft soap (B.P.)	1 part
Potassium chloride	10 parts.

The electrode area shall be completely wetted and remain so until the end of the test.

Clean metal contacts (preferably brass), 25 mm wide and constructed with a V-groove having an included angle appropriate to the belt under test, shall be applied to the wetted areas of the belt so that only the driving surfaces of the belt are in contact. At each metal contact a force of 1 N/mm of top width shall be applied to the belt to press it into the V-groove to ensure adequate electrical contact (see Fig. 6).

The surfaces of the V-belt shall not be deformed during the application of the contacts or during the test.

Test procedure. After mechanical conditioning and cleaning, the liquid electrodes and metal contacts, as described in Appendix B, ' Liquid electrodes and contacts ', shall be applied to the belt and the resistance test shall be carried out.

NOTE. Non-compliance with the maximum limit of resistance specified can be proved only at the specified upper limits of temperature and humidity. Compliance can be proved at any permissible testing temperature and humidity at which the resistance is below the specified limit.

Number of tests. At least five tests shall be made on different areas of the V-belt, spaced so that the tests will be representative of the whole belt.

No individual test result shall be greater than that specified in ' Electrical resistance '.

See next page

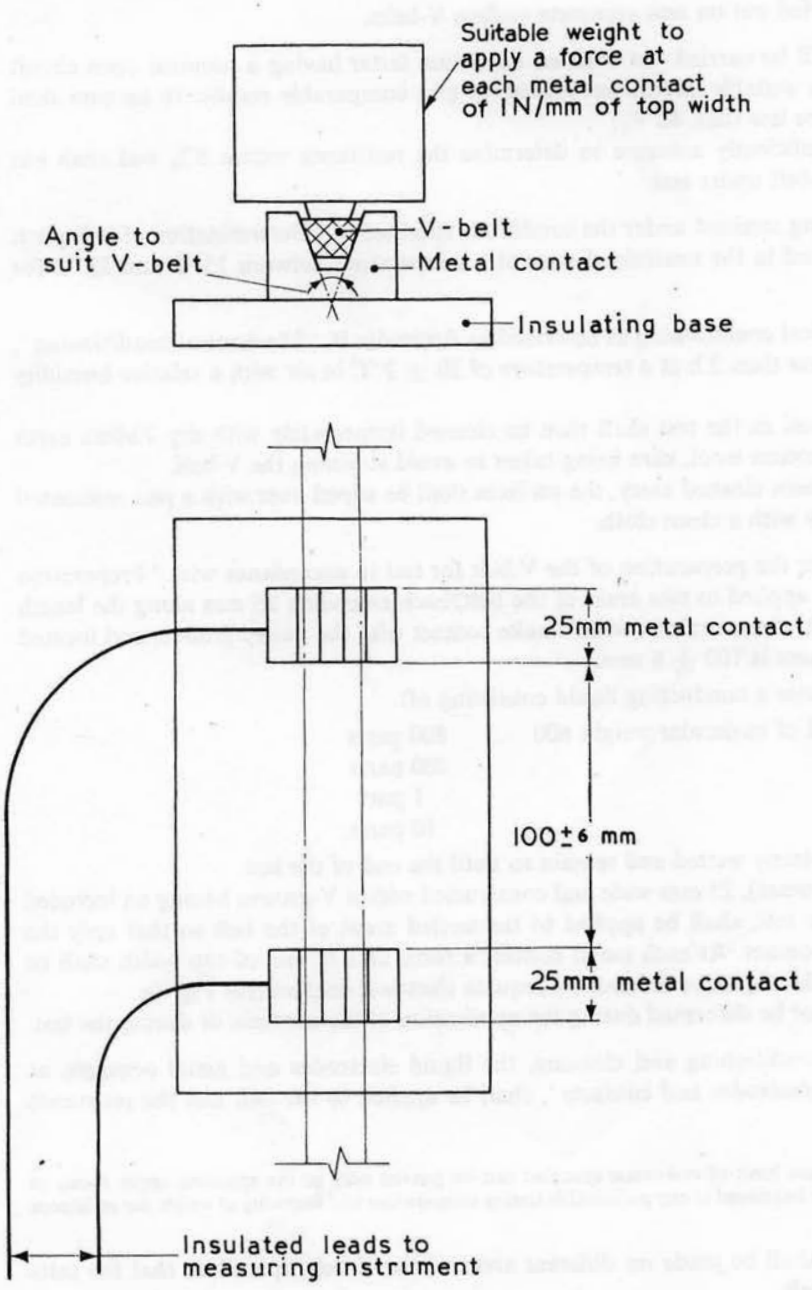

Fig. 6. Apparatus for measuring the electrical resistance of V-belts

Appendix C

Recommended practice for installation tension in V-belt drives and calculation of resultant force imposed on the shaft by V-belts

V-belts work satisfactorily over a wide range of belt tensions so that rough and ready methods of deciding on belt tensions have not, as yet, resulted in serious troubles with the drive. However, it is desirable to be able to measure tensions with sufficient accuracy to avoid bearing trouble or belt slip or to meet particularly arduous conditions. The following procedure is recommended for drives coming within the normal range for each belt section as defined in this specification.

Measure the length of the span in millimetres. At the centre of the span apply a force with a spring scale in a direction perpendicular to the span, until the belt is deflected from the normal by an amount equal to 0.016 mm for every millimetre of span length (see Fig. 7).

For example, the deflection for a span of 1 m would be 1000 × 0.016 or 16 mm. Note the force and compare it with the value of P given in Table 10.

In all cases it is essential that the pulley centres be fixed and that the larger pulley is then rotated at least four times before making the measurement. On a multiple V-belt drive it is essential that a matched set of belts be used (see ' Matched belts ') and the above procedure carried out on each belt, the average values of these forces being compared with the specified values of P in Table 10.

The belt tension should be satisfactory if its value is between that for normal and 1.5 times normal tension. However, when starting up a drive, with new belts a tension of 2.0 times normal is acceptable, since the tension falls rapidly in the early stages of running in. Some difficult drives may need a tension as high as 2.0 times normal tension to be maintained, therefore retensioning is necessary after an initial running-in period. Difficult drives are usually those with one or more of the following properties:

High belt speed,
Low belt speed,
Small arc of contact,
High overload on start-up.

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Table 10. Deflection force required for measuring installation tension in V-belt drives

1	2	3	4
Belt cross section	Required force *P* at centre of span		
	for normal tension	for 1.5 times normal tension	for 2.0 times normal tension
	N	N	N
Y	2	—	—
Z	4	—	—
A	10	15	20
B	20	30	40
C	40	60	80
D	70	105	140

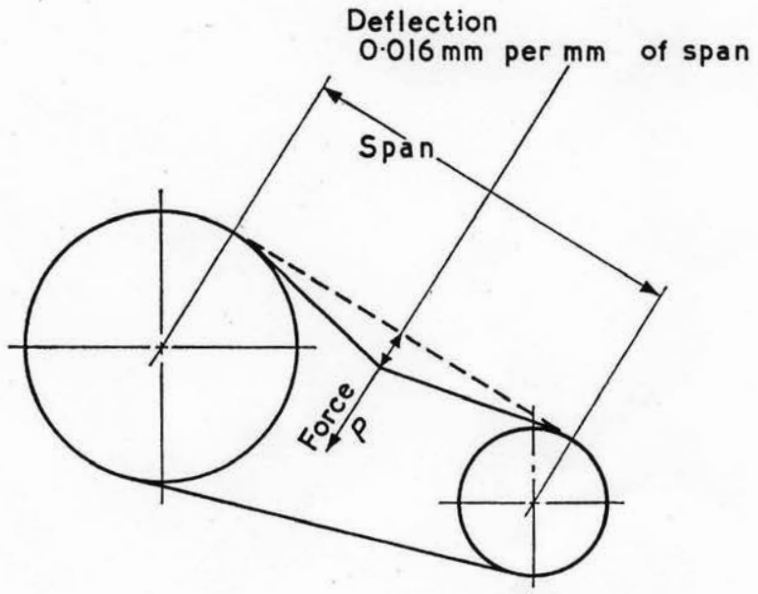

Fig. 7. Belt deflection measurement

The total static hub load W_s, measured in newtons, imposed by the belts on the shaft is the vector sum of the tensions in the belts and it can be calculated with sufficient accuracy by the following formula:

$$W_s = 32\,nP \sin\frac{\theta}{2}$$

where n = the number of belts,
θ = the arc of contact on smaller pulley, and
P = the force at centre of span in newtons.

To determine the dynamic hub load W_r, measured in newtons, a correction needs to be made to the static tension to account for the effect of centrifugal force before the vectorial summation, i.e.

$$W_r = 32n\,(P-K) \sin\frac{\theta}{2}$$

where K = the correction factor for centrifugal tension (see Table 11).

Table 11. Values of K to correct for the effect of centrifugal tension

1	2	3	4	5	6	7
Belt Speed	Belt cross section					
	Y	Z	A	B	C	D
m/s						
1.0			—	—	—	—
2.5			—	—	—	—
3.5			—	—	—	—
4.5			—	—	—	—
5.5			—	—	—	1.00
8.0			—	—	1.00	2.20
11.0			—	1.20	1.80	3.80
14.0			1.00	1.80	2.80	6.00
16.5			1.50	2.50	4.00	8.50
19.0			2.00	3.50	5.50	12.00
22.0			2.60	4.50	7·00	15.50
25.0			3.20	5.60	9.00	19.50
27.5			4.00	7.00	11.00	24.00
30.0			5.00	9.00	13.50	30.00