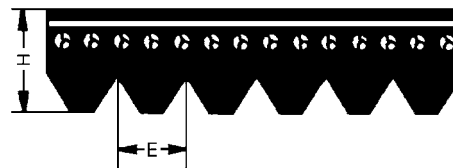


BELT DIMENSIONS & PHYSICAL PROPERTIES

Belt Section	PJ	PK	PL	PM
Rib pitch E (mm)	2.34	3.56	4.70	9.40
Belt thickness H (mm)	3.50	5.00	7.00	12.00
Mass/unit length/rib (g/m/rib)	8.20	19.50	32.00	110.00
Maximum belt* speed (m/sec)	60.00	55.00	50.00	40.00
Minimum pulley diameter (mm)	18.00	50.00	70.00	180.00

* Belt speeds above 40m/sec require special pulley materials – consult your local Authorised Distributor



The geometry of each section complies with ISO 9982.

STANDARD EFFECTIVE LENGTHS (MM & INCHES)

PJ		PK		PL		PM	
406	16.0	673	26.5	1075	42.5	2693	106.0
432	17.0	698	27.5	1270	50.0	2832	111.5
457	18.0	710	28.0	1333	52.5	2921	115.0
483	19.0	740	29.1	1371	54.0	3010	118.5
508	20.0	775	30.5	1397	55.0	3124	123.0
559	22.0	805	31.7	1422	56.0	3327	131.0
610	24.0	841	33.1	1562	61.5	3531	139.0
660	26.0	870	34.3	1613	63.5	3734	147.0
711	28.0	884	34.8	1664	65.5	4089	161.0
723	28.5	915	36.0	1715	67.5	4191	165.0
762	30.0	926	36.5	1764	69.5	4470	176.0
813	32.0	954	37.6	1803	71.0	4648	183.0
864	34.0	970	38.2	1841	72.5	5029	198.0
914	36.0	1015	40.0	1943	76.5	5410	213.0
960	38.0	1030	40.6	1981	78.0	6121	241.0
1016	40.0	1080	42.5	2020	79.5	6883	271.0
1092	43.0	1146	45.1	2070	81.5	7646	301.0
1105	43.5	1165	45.9	2096	82.5	8408	331.0
1123	44.0	1230	48.4	2134	84.0		
1130	44.5	1295	51.0	2197	86.5		
1150	45.0	1387	54.6	2235	88.0		
1168	46.0	1425	56.1	2324	91.5		
1200	47.0	1460	57.5	2362	93.0		
1244	49.0	1530	60.2	2476	97.5		
1270	50.0	1560	61.4	2515	99.0		
1280	50.5	1658	65.3	2705	106.5		
1321	52.0	1725	67.9	2743	108.0		
1355	53.0	1760	69.3	2845	112.0		
1397	55.0	1795	70.7	2895	114.0		
1428	56.0	1863	73.3	2921	115.0		
1473	58.0	1900	74.8	2997	116.0		
1549	61.0	1980	78.0	3086	121.5		
1600	63.0	2050	80.7	3124	123.0		
1651	65.0	2145	84.4	3289	129.5		
1663	65.5	2257	88.9	3327	131.0		
1752	69.0	2330	91.7	3492	137.5		
1854	73.0	2440	96.1	3696	145.5		
1910	75.0	2523	99.3	4051	159.5		
1956	77.0	2612	102.8				
1965	77.5	2680	105.5				
1992	78.5						
2083	82.0						
2210	87.0						

Effective belt lengths are used with pulley effective diameters in all centre distance calculations.

All the above belts can be supplied with rib numbers of at least 46.

Intermediate belt lengths are available - consult your local Authorised Distributor.

Belts should be designated by: number of ribs, section letters and effective length in mm

(e.g. 16 PL 2235)

Ribbed belt codes

Digits	Reference	Code
1,2&3	Product group	215
4	Belt section PJ,PK,PL,PM	J,K,L,M
5,6,7,8	Belt effective length mm e.g. 723mm=0723 1295mm=1295 for M section over 10000 use 1st 4 digits e.g. 12217mm =1221	0200 -9999

NOTE:

These 8 digit codes specify the section and effective length of a belt.

The number of ribs on any belt must be specified separately.

e.g. 16 PL 2235 = 215 L 2235, 16 ribs

Necessary drive data: Driving/driven shaft speeds (rev/min), absorbed drive power and/or motor power (kW), type of prime mover (inc. electric motor starting arrangements) and driven machine, machine shaft diameters (mm or ins.), required drive centre distance (mm), any other dimensional constraints.

(a) Service Factor

Select the service factor applicable to the drive from table 1 below. For a speed increasing drive multiply the basic service factor by the special factor in the top left box to achieve the full service factor.

(b) Design Power

Multiply the normal running (absorbed) power of the drive, or if not known, the motor power, by the service factor (a), to give the design power which is used as the basis for drive selection. This power should be calculated in kW.

(c) Ribbed Belt Section

Refer to table 2, page 79 and find the point of intersection of the faster drive shaft speed in rev/min, and the design power (b). This point will indicate required belt section and approximate small pulley diameters/rib numbers.

NOTE: PK section ribbed belts are normally used for automotive applications. For general industrial applications PJ, PL or PM section belts should be selected.

(d) Speed Ratio

Divide rev/min of faster shaft by that of the slower shaft to give required speed ratio.

(e) Minimum Small Pulley Diameter

Refer to table 5, page 79 to find the minimum recommended small pulley diameter, using design power (b) and the faster shaft speed.

(f) Pulley Effective* Diameters

Refer to table 6, page 80 to select pulley effective diameters giving close to the required speed ratio (d), using (e) as a guide to small pulley diameter.

Calculate the exact speed ratio and check acceptability

* Note: All pulley designations show effective (outside) diameters. Exact speed ratios are calculated using pitch diameters, – see under table 6, page 80.

(g) Belt Length and Centre Distance

Use the formulae below to establish which standard belt length (listed page 77) gives closest to the required drive centre distance.

(h) Combined Correction Factor

Refer to tables 3 & 4, page 79 to find power correction factors for belt length and for the arc of contact for the small pulley (the latter calculated using pulley diameters D & d, and centre distance C – all in mm).

Multiply these two factors together to give the combined correction factor.

(j) Basic/Additional Power per Rib

The main power rating tables on pages 80 & 81 show basic power per belt rib, in kW, at the intersection of faster shaft speed (LH column, in rev/min) with pulley diameter (across top, in mm). Additional power per rib due to speed ratio is shown in the smaller RH table. Values for shaft speeds not listed can be derived by interpolation.

(k) Corrected Power per Rib

Add the speed ratio increment to the basic power per rib (j) and multiply the resultant kW value by the combined correction factor (h) to give the full power per rib.

(l) Number of Ribs Required

Divide design power (b) by the full power per rib (k) to give the number of belt ribs required. Round up to an even number and check whether standard pulleys are available.

(m) Pulleys

When pulley specification is established, consult your local Authorised Distributor to check availability of pulleys with Taper Lock bush shaft fixing, and associated bore size capacity.

BELT LENGTH & CENTRE DISTANCE FORMULAE

To determine belt length (L mm) for a given centre distance (C mm) using pulleys with small/large effective diameters d/D mm:

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

–select the standard belt length nearest to L as calculated.

To determine centre distance for given effective pulley diameters and actual belt length:

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

where: $A = \frac{L}{4} - 0.3925 (D + d)$ and $B = \frac{(D-d)^2}{8}$

TABLE 1: SERVICE FACTORS

SPECIAL CASES		TYPES OF PRIME MOVER					
For speed increasing drives of: Speed ratio 1.00 – 1.24 multiply service factor by 1.00 Speed ratio 1.25 – 1.74 multiply service factor by 1.05 Speed ratio 1.75 – 2.49 multiply service factor by 1.11 Speed ratio 2.50 – 3.49 multiply service factor by 1.18 Speed ratio 3.50 and over multiply service factor by 1.25		'Soft' starts			'Heavy' starts		
		Electric motors: AC – Star delta start DC – Shunt wound Internal combustion engines with 4 or more cylinders All prime movers fitted with centrifugal clutches, dry or fluid couplings or electronic soft start devices			Electric Motors: AC – Direct-on-line start DC – Series & compound wound Internal combustion engines with less than 4 cylinders Prime movers not fitted with soft start devices		
		Hours per day duty					
	TYPES OF DRIVEN MACHINE	10 and under	Over 10 to 16	Over 16	10 and under	Over 10 to 16	Over 16
Class 1 Light Duty	Agitators (uniform density), blowers, exhausters and fans (up to 75 kW), centrifugal compressors and pumps, belt conveyors (uniformly loaded).	1.0	1.1	1.2	1.1	1.2	1.3
Class 2 Medium Duty	Agitators and mixers (variable density), blowers, exhausters and fans (over 7.5 kW), rotary compressors and pumps (other than centrifugal), belt conveyors (not uniformly loaded), generators and exciters, laundry machinery, lineshafts, machine tools, printing machinery, sawmill and woodworking machinery, screens (rotary).	1.1	1.2	1.3	1.2	1.3	1.4
Class 3 Heavy Duty	Brick machinery, bucket elevators, compressors and pumps (reciprocating), conveyors (heavy duty), hoists, mills (hammer), pulverisers, punches, presses, shears, quarry plant, rubber machinery, screens (vibrating), textile machinery.	1.2	1.3	1.4	1.4	1.5	1.6
Class 4 Extra Heavy Duty	Crushers (gyratory-jaw roll), mills (ball-rod-tube).	1.3	1.4	1.5	1.5	1.6	1.8

TABLE 2

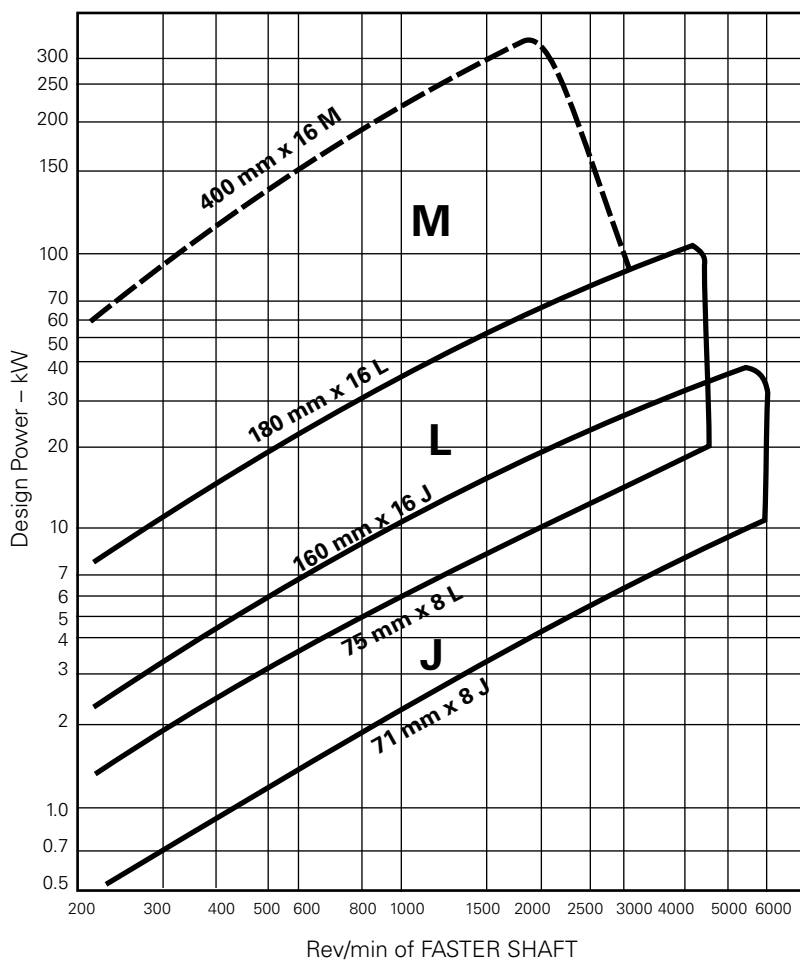


TABLE 3 – BELT LENGTH CORRECTION FACTOR

PITCH LENGTH		Cross Section		
mm	ins	PJ	PL	PM
610	24.0	0.89	–	–
660	26.0	0.90	–	–
711	28.0	0.92	–	–
762	30.0	0.93	–	–
813	32.0	0.95	–	–
864	34.0	0.97	–	–
914	36.0	0.98	–	–
965	38.0	0.99	–	–
1016	40.0	1.00	–	–
1092	43.0	1.01	–	–
1168	46.0	1.02	–	–
1270	50.0	1.05	0.89	–
1397	55.0	1.07	0.91	–
1550	61.0	1.09	–	–
1562	61.5	–	0.93	–
1664	65.0	–	0.94	–
1752	69.0	1.12	–	–
1765	69.5	–	0.96	–
1842	72.5	–	0.97	–
1956	77.0	1.15	–	–
1981	78.0	–	0.98	–
2134	84.0	–	1.01	–
2286	90.0	–	–	0.88
2324	91.5	–	1.02	–
2388	94.0	–	–	0.89
2515	99.0	–	1.04	0.90
2693	106.0	–	1.05	0.91
2921	115.0	–	1.07	0.93
3124	123.0	–	1.08	0.94
3327	131.0	–	1.10	0.96
3696	145.5	–	1.12	–
3734	147.0	–	–	0.98
4089	161.0	–	1.14	1.00
4191	165.0	–	1.14	1.00
4470	176.0	–	1.16	1.02
4648	183.0	–	–	1.03
5029	198.0	–	1.19	1.05
5385	212.0	–	1.20	–
5410	213.0	–	–	1.06
6121	241.0	–	–	1.09
6883	271.0	–	–	1.12
7646	301.0	–	–	1.14
8408	331.0	–	–	1.16
9169	361.0	–	–	1.18
9931	391.0	–	–	1.20

TABLE 4 – ARC OF CONTACT CORRECTION FACTORS

$\frac{D-d}{C}$	Arc of contact (degrees)	Correction Factor	$\frac{D-d}{C}$	Arc of contact (degrees)	Factor
0.00	180	1.00	0.50	151	0.93
0.05	177	0.99	0.55	148	0.92
0.10	174	0.99	0.60	145	0.91
0.15	171	0.98	0.65	142	0.90
0.20	169	0.97	0.70	139	0.89
0.25	166	0.97	0.75	136	0.88
0.30	163	0.96	0.80	133	0.87
0.35	160	0.95	0.85	130	0.86
0.40	157	0.94	0.90	127	0.85
0.45	154	0.93	0.95	123	0.83

TABLE 5

Speed of motor shaft rev/min	Recommended Minimum Motor Pulley Diameter (mm)																						
	Design Power (kW)																						
	0.55	0.75	1.1	1.5	2.2	3.0	4.0	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	93.0	112	130	150	
720	50	50	67	70	75	85	95	106	118	132	150	160	165	180	190	200	224	250	280	315	315	315	
960	45	50	56	63	70	75	85	90	100	118	125	132	150	165	180	190	212	224	250	280	315	315	
1440	40	45	50	63	67	71	80	85	90	100	118	125	132	150	165	170	190	200	224	250	280	280	
2880	40	45	50	56	63	67	71	75	80	90	95	100	118	125	132	150	160	165	180	190	200	224	

TABLE 6
SPEED RATIO CHART

Drive (motor) pulley eff. dia. mm	71	75	80	85	90	95	100	106	112	118	125	132	140	150	160	170	180
Driven pulley eff. dia mm																	
71	1.00																
75	1.05	1.00															
80	1.12	1.06	1.00														
85	1.19	1.13	1.06	1.00													
90	1.26	1.19	1.12	1.06	1.00												
95	1.32	1.25	1.18	1.11	1.05	1.00											
100	1.39	1.32	1.24	1.17	1.11	1.05	1.00										
106	1.47	1.39	1.31	1.24	1.17	1.11	1.06	1.00									
112	1.55	1.47	1.38	1.31	1.24	1.17	1.12	1.05	1.00								
118	1.63	1.55	1.46	1.37	1.30	1.23	1.17	1.11	1.05	1.00							
125	1.72	1.64	1.54	1.45	1.37	1.30	1.24	1.17	1.11	1.06	1.00						
132	1.82	1.73	1.62	1.53	1.45	1.38	1.31	1.24	1.17	1.12	1.05	1.00					
140	1.93	1.83	1.72	1.62	1.53	1.46	1.39	1.31	1.24	1.18	1.12	1.06	1.00				
150	2.06	1.96	1.84	1.73	1.64	1.56	1.48	1.40	1.33	1.26	1.19	1.13	1.07	1.00			
160	2.19	2.08	1.96	1.85	1.75	1.66	1.58	1.49	1.42	1.35	1.27	1.21	1.14	1.07	1.00		
170	2.33	2.21	2.08	1.96	1.86	1.76	1.68	1.58	1.50	1.43	1.35	1.28	1.21	1.13	1.06	1.00	
180	2.46	2.34	2.20	2.07	1.96	1.86	1.77	1.68	1.59	1.51	1.43	1.35	1.28	1.20	1.12	1.06	1.00
190	2.60	2.46	2.32	2.19	2.07	1.96	1.87	1.77	1.68	1.59	1.51	1.43	1.35	1.26	1.18	1.12	1.05
200	2.73	2.59	2.44	2.30	2.18	2.07	1.97	1.86	1.76	1.67	1.58	1.50	1.42	1.33	1.24	1.17	1.11
212	2.89	2.75	2.58	2.44	2.30	2.19	2.08	1.97	1.87	1.77	1.68	1.59	1.50	1.40	1.32	1.24	1.17
224	3.05	2.90	2.72	2.57	2.43	2.31	2.20	2.08	1.97	1.87	1.77	1.68	1.59	1.48	1.39	1.31	1.24
236	3.21	3.05	2.87	2.71	2.56	2.43	2.31	2.19	2.07	1.97	1.86	1.77	1.67	1.56	1.46	1.38	1.31
250	3.40	3.23	3.04	2.86	2.71	2.57	2.45	2.32	2.19	2.09	1.97	1.87	1.77	1.65	1.55	1.46	1.38
280	3.81	3.61	3.40	3.20	3.03	2.88	2.74	2.59	2.45	2.33	2.21	2.09	1.98	1.85	1.73	1.63	1.54
315	4.28	4.06	3.81	3.60	3.41	3.23	3.08	2.91	2.76	2.62	2.48	2.35	2.22	2.07	1.95	1.84	1.74
355	4.81	4.57	4.29	4.05	3.83	3.64	3.46	3.27	3.10	2.95	2.79	2.65	2.50	2.34	2.19	2.07	1.95
400	5.42	5.14	4.83	4.56	4.32	4.10	3.90	3.68	3.49	3.32	3.14	2.98	2.81	2.63	2.47	2.33	2.20
450	6.09	5.78	5.43	5.12	4.85	4.60	4.38	4.14	3.93	3.73	3.53	3.35	3.16	2.95	2.77	2.61	2.47
500	6.26	6.41	6.03	5.69	5.39	5.11	4.86	4.60	4.36	4.14	3.92	3.72	3.51	3.28	3.08	2.90	2.74
630	8.50	8.07	7.59	7.16	6.78	6.43	6.12	5.79	5.48	5.21	4.93	4.68	4.41	4.13	3.87	3.65	3.45
800	10.79	10.24	9.62	9.08	8.59	8.16	7.76	7.34	6.96	6.61	6.25	5.93	5.60	5.23	4.91	4.63	4.38

The above chart gives approximate speed ratios between pulleys of the shown effective diameters. For exact drive ratio values, calculate the mathematical ratio between any 2 effective dias. (De) converted to pitch dias. (Dp) as follows: J section $D_p = D_e + 2 \text{ mm}$
L section $D_p = D_e + 5 \text{ mm}$

PJ RIBBED BELT RATINGS

Basic power rating per rib (kW) for small pulley effective diameter (mm) PJ Section												Additional power (kW) per rib due to speed ratio				
Rev/min faster shaft	71	75	80	85	90	95	100	112	125	140	160	1.00 to 1.05	1.05 to 1.16	1.17 to 1.40	1.41 to 1.65	above 1.66
100	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.07	0	0.00	0.00	0.00	0.00
200	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.12	0.13	0	0.00	0.00	0.00	0.00
400	0.11	0.11	0.12	0.13	0.14	0.15	0.16	0.18	0.20	0.22	0.26	0	0.00	0.00	0.00	0.00
600	0.16	0.17	0.18	0.19	0.21	0.22	0.23	0.26	0.29	0.33	0.38	0	0.00	0.00	0.00	0.01
720	0.19	0.20	0.22	0.23	0.25	0.26	0.27	0.31	0.35	0.39	0.45	0	0.00	0.00	0.01	0.01
800	0.21	0.22	0.24	0.25	0.27	0.29	0.30	0.34	0.38	0.43	0.50	0	0.00	0.01	0.01	0.01
960	0.25	0.26	0.28	0.30	0.32	0.34	0.36	0.41	0.46	0.51	0.59	0	0.00	0.01	0.01	0.01
1000	0.26	0.27	0.29	0.31	0.33	0.35	0.37	0.42	0.47	0.53	0.61	0	0.00	0.01	0.01	0.01
1200	0.31	0.33	0.35	0.37	0.40	0.42	0.45	0.50	0.56	0.63	0.72	0	0.00	0.01	0.01	0.01
1440	0.36	0.39	0.41	0.44	0.47	0.50	0.43	0.60	0.67	0.75	0.86	0	0.00	0.01	0.01	0.01
1600	0.4	0.43	0.46	0.49	0.52	0.55	0.58	0.66	0.74	0.83	0.94	0	0.00	0.01	0.01	0.01
1800	0.45	0.45	0.51	0.55	0.58	0.62	0.65	0.73	0.82	0.92	1.05	0	0.01	0.01	0.01	0.01
2000	0.49	0.53	0.56	0.60	0.64	0.68	0.72	0.81	0.90	1.01	1.15	0	0.01	0.01	0.02	0.02
2200	0.54	0.57	0.62	0.66	0.70	0.74	0.78	0.88	0.98	1.10	1.25	0	0.01	0.01	0.02	0.02
2400	0.59	0.62	0.67	0.71	0.76	0.80	0.85	0.95	1.06	1.19	1.35	0	0.01	0.01	0.02	0.02
2600	0.63	0.67	0.72	0.77	0.82	0.86	0.91	1.02	1.14	1.28	1.45	0	0.01	0.02	0.02	0.02
2880	0.69	0.74	0.79	0.84	0.89	0.95	1.00	1.12	1.25	1.39	1.57	0	0.01	0.02	0.02	0.03
3000	0.72	0.76	0.82	0.87	0.93	0.98	1.04	1.16	1.29	1.44	1.63	0	0.01	0.02	0.02	0.03
3500	0.84	0.88	0.94	1.00	1.06	1.12	1.18	1.32	1.47	1.63	1.83	0	0.01	0.02	0.03	0.03
4000	0.93	0.99	1.06	1.13	1.20	1.26	1.33	1.48	1.64	1.80	2.01	0	0.01	0.02	0.03	0.04
4500	1.03	1.09	1.17	1.25	1.32	1.39	1.46	1.62	1.79	1.96	2.16	0	0.01	0.03	0.04	0.04
5000	1.13	1.20	1.28	1.36	1.44	1.51	1.59	1.76	1.92	2.10	2.27	0	0.01	0.03	0.04	0.05
6000	1.31	1.39	1.48	1.57	1.65	1.73	1.81	1.98	2.14	2.27	2.40	0	0.02	0.03	0.05	0.06

Power Ratings - PL & PM Ribbed Belts



PL RIBBED BELT RATINGS

Basic power rating per rib (kW) for small pulley effective diameter (mm) PL Section												
Rev/min faster shaft	75	80	85	90	95	100	106	112	125	140	160	180
100	0.08	0.09	0.10	0.11	0.12	0.12	0.14	0.15	0.17	0.19	0.23	0.26
200	0.15	0.17	0.19	0.20	0.22	0.24	0.26	0.28	0.32	0.37	0.44	0.50
400	0.29	0.32	0.35	0.38	0.42	0.45	0.49	0.53	0.61	0.71	0.84	0.96
600	0.41	0.46	0.51	0.56	0.60	0.65	0.71	0.77	0.89	1.03	1.22	1.40
720	0.49	0.54	0.60	0.66	0.71	0.77	0.84	0.91	1.05	1.22	1.44	1.66
800	0.53	0.60	0.66	0.72	0.79	0.85	0.92	1.00	1.16	1.34	1.58	1.82
960	0.63	0.70	0.78	0.85	0.93	1.00	1.09	1.18	1.37	1.58	1.87	2.15
1000	0.65	0.73	0.81	0.88	0.96	1.04	1.13	1.22	1.42	1.64	1.94	2.23
1200	0.76	0.86	0.95	1.04	1.13	1.22	1.33	1.44	1.67	1.94	2.29	2.63
1440	0.90	1.01	1.11	1.22	1.33	1.44	1.57	1.69	1.97	2.28	2.69	3.08
1600	0.98	1.10	1.22	1.34	1.46	1.56	1.72	1.86	2.16	2.50	2.94	3.38
1800	1.09	1.22	1.35	1.49	1.62	1.75	1.91	2.06	2.39	2.77	3.26	3.73
2000	1.19	1.34	1.48	1.63	1.77	1.92	2.09	2.26	2.62	3.03	3.56	4.07
2200	1.29	1.45	1.61	1.79	1.92	2.08	2.26	2.45	2.84	3.28	3.84	4.38
2400	1.39	1.56	1.73	1.90	2.07	2.24	2.44	2.63	3.05	3.52	4.12	4.69
2600	1.48	1.67	1.85	2.03	2.21	2.39	2.60	2.81	3.24	3.75	4.38	4.97
2880	1.61	1.81	2.01	2.21	2.41	2.60	2.83	3.05	3.53	4.05	4.71	5.32
3000	1.67	1.87	2.08	2.28	2.49	2.68	2.92	3.15	3.64	4.18	4.85	5.46
3500	1.88	2.11	2.35	2.57	2.80	3.01	3.28	3.53	4.07	4.64	5.34	5.95
4000	2.07	2.33	2.59	2.84	3.09	3.33	3.61	3.88	4.44	5.03	5.72	6.28
4500	2.25	2.53	2.81	3.08	3.34	3.59	3.89	4.17	4.74	5.32	5.96	6.43

Additional power (kW) per rib due to speed ratio				
1.00 to 1.06	1.07 to 1.16	1.17 to 1.40	1.41 to 1.74	above 1.75
0.00	0.00	0.01	0.01	0.01
0.00	0.01	0.01	0.02	0.02
0.00	0.01	0.03	0.03	0.04
0.00	0.02	0.04	0.05	0.06
0.00	0.02	0.05	0.06	0.07
0.00	0.03	0.05	0.06	0.08
0.00	0.03	0.06	0.08	0.09
0.00	0.04	0.06	0.08	0.09
0.00	0.04	0.07	0.10	0.11
0.00	0.05	0.09	0.12	0.14
0.00	0.05	0.10	0.13	0.15
0.00	0.06	0.11	0.15	0.17
0.00	0.06	0.12	0.16	0.19
0.00	0.08	0.14	0.18	0.21
0.00	0.08	0.14	0.19	0.23
0.00	0.09	0.16	0.21	0.25
0.00	0.10	0.17	0.23	0.27
0.00	0.10	0.18	0.24	0.28
0.00	0.12	0.21	0.28	0.33
0.00	0.13	0.24	0.32	0.38
0.00	0.15	0.27	0.36	0.43

PM RIBBED BELT RATINGS

Basic power rating per rib (kW) for small pulley effective diameter (mm) PM Section										
Rev/min faster shaft	180	190	200	212	224	250	280	315	355	400
100	0.63	0.69	0.74	0.81	0.87	1.01	1.18	1.36	1.57	1.81
200	1.19	1.29	1.40	1.52	1.65	1.92	2.23	2.58	2.98	3.45
400	2.22	2.42	2.62	2.86	3.10	3.61	4.20	4.86	5.63	6.50
600	3.18	3.47	3.76	4.11	4.46	5.20	6.05	6.99	8.08	9.32
720	3.73	4.07	4.42	4.83	5.23	6.11	7.10	8.20	9.47	10.89
800	4.08	4.46	4.84	5.29	5.74	6.69	7.77	8.97	10.35	11.88
960	4.77	5.22	5.66	6.19	6.71	7.82	9.07	10.45	12.01	13.72
1000	4.94	5.40	5.86	6.40	6.94	8.09	9.38	10.80	12.40	14.15
1200	5.75	6.28	6.81	7.44	8.06	9.38	10.85	12.44	14.21	16.09
1440	6.65	7.27	7.88	8.60	9.30	10.79	12.42	14.15	16.02	17.91
1600	7.21	7.87	8.53	9.30	10.05	11.63	13.33	15.11	16.97	18.77
1800	7.85	8.57	9.28	10.10	10.90	12.56	14.31	16.09	17.86	19.41
2000	8.44	9.20	9.94	10.81	11.64	13.34	15.09	16.79	18.36	
2200	8.95	9.75	10.52	11.42	12.27	13.97	15.66	17.20		
2400	9.40	10.22	11.01	11.91	12.77	14.42	15.99	17.29		
2600	9.78	10.61	11.40	12.30	13.13	14.70	16.08			
2880	10.17	11.00	11.77	12.62	13.39	14.75				
3000	10.28	11.10	11.86	12.68	13.41	14.64				

Additional power (kW) per rib due to speed ratio				
1.00 to 1.04	1.05 to 1.14	1.15 to 1.48	1.49 to 2.00	above 2.01
0.00	0.01	0.04	0.05	0.07
0.00	0.03	0.08	0.10	0.14
0.01	0.06	0.16	0.21	0.27
0.02	0.09	0.24	0.31	0.41
0.03	0.11	0.29	0.37	0.49
0.03	0.12	0.32	0.42	0.54
0.03	0.14	0.38	0.50	0.65
0.04	0.15	0.4	0.52	0.68
0.04	0.18	0.49	0.63	0.81
0.05	0.23	0.58	0.75	0.97
0.06	0.24	0.65	0.84	1.08
0.07	0.27	0.73	0.94	1.22
0.07	0.31	0.81	1.05	1.35
0.08	0.35	0.89	1.15	1.49
0.08	0.37	0.97	1.25	1.62
0.09	0.40	1.05	1.36	1.76
0.11	0.44	1.16	1.46	1.89
0.11	0.46	1.21	1.57	2.03

The following recommendations for installing a ribbed belt drive will help ensure correct working conditions and optimum service life.

RIBBED BELT PULLEY GROOVE DIMENSIONS

Pulleys are manufactured to ISO 9982 – Pulleys and V-Ribbed Belts for Industrial Applications

PULLEY SECTION		PJ	PK	PL	PM
α	(°)	40 ± 0.5	40 ± 0.5	40 ± 0.5	40 ± 0.5
P	(mm)	2.34 ± 0.03	3.56 ± 0.05	4.70 ± 0.05	9.40 ± 0.08
Tolerance for ΣP		± 0.3	± 0.3	± 0.3	± 0.3
r_t min.	(mm)	0.20	0.25	0.40	0.75
r_b max.	(mm)	0.40	0.50	0.40	0.75
f min.	(mm)	1.8	2.5	3.3	64
d_B	(mm)	1.5 ± 0.01	2.5 ± 0.01	3.5 ± 0.01	7.0 ± 0.01
2X	(mm)	0.23	0.99	2.36	4.53

SHAFT ALIGNMENT

The maximum axial misalignment allowed is 3 mm per metre centre distance, to a maximum of 15 mm.

Make sure that angular misalignment is kept within 2° . With flat pulleys, acting as idlers for power take-off, do not exceed 1° .

A laser alignment device is available, which facilitates quick, easy and accurate pulley alignment - consult your local Authorised Distributor.

TENSIONING THE BELT

Ribbed belts must be tensioned correctly and with great care. Under or over-tensioning can cause functional problems and lead to premature belt failure. We recommend the elongation method, which is simple and requires no special equipment, in most cases.

(For narrow belts - less than 40 mm wide - it is possible to use the Fenner Belt Tension Indicator).

1. Fit the belt on the pulleys with no tension,
2. Draw two lines perpendicularly across the belt back approx 80% of the belt span apart (or one metre apart for very long spans),
3. Increase the distance between the two lines by 0.5 to 0.75% i.e. by 5 to 7.5 mm for an initial spacing of 1000 mm.
4. Run the drive under load for about 10 minutes,
5. Check the tension of the belt (i.e. the spacing between the two lines) and readjust if necessary.

GENERAL

Pulleys should be mounted as close as possible to bearings, to reduce overhung load.

Pulley grooves should be in good condition, clean, and free from sharp edges.

Ensure that drive machinery is securely fastened after belt installation or adjustments.

Guards should be generously sized and well ventilated.

CENTRE DISTANCE ADJUSTMENT: FITTING AND TAKE-UP RECOMMENDATIONS

Belt Length (mm)	PJ		PK		PL		PM	
	M	T	M	T	M	T	M	T
> 750	-10	+10	-11	+13				
750 to 1200	-10	+15	-12	+16	-15	+20		
1200 to 2000	-15	+20	-16	+22	-20	+25		
2000 to 3500	-20	+30	-23	+32	-30	+35	-40	+50
3500 to 6000					-40	+50	-50	+70
> 6000							-100	+130

TAPER LOCK

Ribbed belt pulleys are available using Taper Lock shaft fixing.

For detailed instructions on the fitting and dismantling of Taper Lock products see Shaft Fixings page 126-127.

