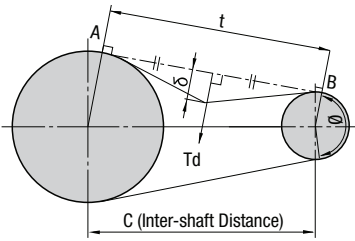


Cautions on Use of Belt

How to Extend Belt

When the belt is too taut, its service life can be shortened, while when it is not taut enough, the belt may (jump off) the groove of the pulley due to an activating torque or shock load. Keep the belt stationary and optimize its tautness. The warp load necessary to provide the optimum tautness can be calculated from values representing the belt, its width and the span in equation A below. Apply deflection load between max. value and recommended value.



$$Td = \frac{Ti + \frac{t \times Y}{Lp}}{16} \dots \dots \dots \text{Equation A}$$

Td: Load N Needed for Deflection d at the Center of Span t

- Ti : Initial Tension N From Table 31 Lp : Length of the Belt (mm)
- Y : Correction Coefficient From Table 31 C : Inter-shaft Distance (mm)
- δ : Deflection (mm) δ=0.016t dp : Diameter of the Pitch Circle of the Small Pulley (mm)
- t : Span Length (mm) $t = \sqrt{C^2 - \frac{(Dp-dp)^2}{4}}$ Dp : Diameter of the Pitch Circle of the Large Pulley (mm)

Table 32. Initial Tension (Ti) and Correction Coefficient (Y)

| Type | Ti-Y | | Belt Nominal Width Belt Width mm | | | | | | | | |
|------|---------------|---------------------------------|-------------------------------------|-------------|------------|--------------|--------------|-------------|-------------|-------------|-------------|
| | Ti (N) | Max. Value Recommended Value | 019 4.8 | 025 6.4 | 031 7.9 | 037 9.5 | 050 12.7 | 075 19.1 | 100 25.4 | 150 38.1 | 200 50.8 |
| MXL | Ti (N) | Max. Value Recommended Value | 9.8 5.8 | 13.7 8.2 | - | 21.6 12.9 | 29.9 18.0 | - | - | - | - |
| | Coefficient Y | | - | - | - | - | - | - | - | - | - |
| XL | Ti (N) | Max. Value Recommended Value | - | 29 18 | 37 25 | 44 32 | 67 51 | - | - | - | - |
| | Coefficient Y | | - | 3.8 | 5.4 | 7.6 | 11.8 | - | - | - | - |
| L | Ti (N) | Max. Value Recommended Value | - | - | - | - | 76 52 | 125 87 | 175 123 | 273 191 | - |
| | Coefficient Y | | - | - | - | - | 44.1 | 75.5 | 107 | 165 | - |
| H | Ti (N) | Max. Value Recommended Value | - | - | - | - | - | 293 222 | 421 312 | 646 486 | 889 668 |
| | Coefficient Y | | - | - | - | - | - | 142 | 205 | 317 | 423 |

| Type | Ti-Y | | Belt Nominal Width Belt Width mm | | | |
|------|---------------|---------------------------------|-------------------------------------|--------------|----------------|----------------|
| | Ti (N) | Max. Value Recommended Value | 60 9.8 | 100 10 | 150 15 | 250 25 |
| P2M | Ti (N) | Max. Value Recommended Value | 13 9.8 | - | - | - |
| | Coefficient Y | | 0.9 | - | - | - |
| P3M | Ti (N) | Max. Value Recommended Value | - | 46 34 | 74 55 | - |
| | Coefficient Y | | - | 1.9 | 3.0 | - |
| P5M | Ti (N) | Max. Value Recommended Value | - | 147 107.8 | 225.4 166.6 | - |
| | Coefficient Y | | - | 56.9 | 82.4 | - |
| P8M | Ti (N) | Max. Value Recommended Value | - | - | 294 225.4 | 509.6 382.2 |
| | Coefficient Y | | - | - | 135 | 239 |

| Type | Ti-Y | | Belt Nominal Width Belt Width mm | | | | | | | |
|--------------|---------------|---------------------------------|-------------------------------------|-------------|--------------|------------|------------|------------|--------------|--------------|
| | Ti (N) | Max. Value Recommended Value | 40 4 | 60 6 | 100 10 | 150 15 | 250 25 | 300 30 | 400 40 | 600 60 |
| S2M | Ti (N) | Max. Value Recommended Value | 7.8 5.9 | 12.7 9.8 | 22.6 16.7 | - | - | - | - | - |
| | Coefficient Y | | 9.8 | 15.7 | 27.4 | - | - | - | - | - |
| S3M | Ti (N) | Max. Value Recommended Value | - | 26 20 | 46 34 | 73 54 | - | - | - | - |
| | Coefficient Y | | - | 26.5 | 46.1 | 75.5 | - | - | - | - |
| S5M | Ti (N) | Max. Value Recommended Value | - | - | 77 58 | 124 93 | 221 166 | - | - | - |
| | Coefficient Y | | - | - | 52.8 | 85.5 | 151.0 | - | - | - |
| S8M MTS8M | Ti (N) | Max. Value Recommended Value | - | - | - | 294 226 | 510 382 | 628 470 | 873 657 | - |
| | Coefficient Y | | - | - | - | 98 | 196 | 235 | 333 | - |
| S14M | Ti (N) | Max. Value Recommended Value | - | - | - | - | - | - | 1226 1108 | 1912 1726 |
| | Coefficient Y | | - | - | - | - | - | - | 686 | 1059 |

| Type | Ti-Y | | Belt Nominal Width Belt Width mm | | | | | | | |
|------|---------------|---------------------------------|-------------------------------------|------------|------------|------------|------------|------------|------------|--|
| | Ti (N) | Max. Value Recommended Value | 100 10 | 150 15 | 200 20 | 250 25 | 300 30 | 400 40 | 500 50 | |
| T5 | Ti (N) | Max. Value Recommended Value | 37.3 24.5 | 59 39 | 85 59 | 106 74 | - | - | - | |
| | Coefficient Y | | 16.7 | 26.5 | 38.2 | 47.5 | - | - | - | |
| T10 | Ti (N) | Max. Value Recommended Value | - | 162 108 | 235 157 | 294 196 | 363 245 | 500 333 | 628 422 | |
| | Coefficient Y | | - | 71.6 | 104.9 | 130.4 | 163.8 | 222.6 | 281.5 | |

| Type | Ti-Y | | Belt Nominal Width Belt Width mm | | | | | | |
|-------|---------------|---------------------------------|-------------------------------------|--------------|--------------|-----------|------------|------------|------------|
| | Ti (N) | Max. Value Recommended Value | 4 4 | 6 6 | 9 9 | 12 12 | 15 15 | 20 20 | 25 25 |
| 2GT | Ti (N) | Max. Value Recommended Value | 12.2 9.4 | 20.5 15.8 | 32.8 25.2 | - | - | - | - |
| | Coefficient Y | | - | - | - | - | - | - | - |
| 3GT | Ti (N) | Max. Value Recommended Value | - | 38 29 | 57 44 | - | 96 74 | - | - |
| | Coefficient Y | | - | - | - | - | - | - | - |
| EV5GT | Ti (N) | Max. Value Recommended Value | - | - | 92 71 | 127 98 | 163 125 | - | - |
| | Coefficient Y | | - | - | - | - | - | - | - |
| EV8YU | Ti (N) | Max. Value Recommended Value | - | - | - | - | 273 210 | 364 280 | 455 350 |
| | Coefficient Y | | - | - | - | - | - | - | - |