

Timing Belt

Selection of Transmission Timing Belts 1

[Step 1] Setting the Required Design Conditions

- (1) Machine Type (2) Power Transmission (3) Load Variances (4) Operation Duration per Day (5) Small Pulley Rotational Speed
 (6) Rotation Ratio (Lg. Pulley # of Teeth / Small Pulley # of Teeth) (7) Shaft Center Distance (Interim) (8) Pulley Diameter Limitation (9) Other Usage Conditions

[Step 2-a] Calculating Design Power.....MXL/XL/L/H/S_M/MTS_M/T Series

- Design Power (Pd) = Transmission Power (Pt) x Overload Factor (Ks)
 - Calculate Transmission Power at Motor Rated Power Output. (It is ideal to calculate from the actual load applied to the belt.)
 - Overload Factor (Ks)=Ko+Kr+Ki
 - Overload Factor (Ks)=Lo+Kr+Ki
- Ko : Overload Correction Factor (Table 1)
 Kr : Rotation Ratio Correction Factor (Table 2)
 Ki : Idler Correction Factor (Table 3)

* When converting the torque (Tq) into transmission power (Pd), calculate the applicable values by using the following expressions.

Torque (Tq) = tqxKs
 Transmitting Power (Pd) = Tqxn/9550

Tq : Design Torque (N-m)
 tq : Transmission Torque
 Ks : Overload Factor
 Pd : Design Power (kW)
 n : Speed (rpm)

i. If the maximum torque is used once or twice per day, calculate the design power by assigning "the load correction factor (Ko) = 1.0" to the expression for the overload factor and then, by multiplying the maximum torque by the overload factor (Ks) derived from the said expression.

ii. If the maximum torque is used very often, calculate the design power by multiplying the maximum torque by the applicable overload factor (Ks).

<For Timing Belts based on Spindle Motor>

Calculate the design power by calculating the transmission power from the basic rotation speed and then, by multiplying it by the applicable overload factor (Ks).

<For Timing Belts based on Linear Drive>

Calculate the design power by using the following expressions.

Te : Effective Tension (N)
 m : Mass (g)
 α : Acceleration (m/sec²)
 V : Belt Speed (m/sec)
 Pt : Transmission Power (KW)
 Pd : Design Power (kW)
 Ks : Overload Factor

Te = m x α
 Pt = TexV/1000
 Pd = PtxKs

Table 1. Load Correction Factor (Ko)

Typical Machines Using a Belt	Motor					
	Max. Output not Exceeding 300% of Rated Value			Max. Output Exceeding 300% of Rated Value		
	AC Motor (Standard Motor, Synchronous Motor)			Special Motor (High torque), Single-Cylinder Engine		
	DC Motor (Shunt), Engine with 2 or More Cylinders			DC Motor (Series), Operation with Lye Shaft or Clutch		
Operation Hours						
Intermittent use		Regular Use		Continuous Use		
1 Day	1 Day	1 Day	1 Day	1 Day	1 Day	
3 to 5 hrs	8 to 12 hrs	8 to 12 hrs	8 to 12 hrs	3 to 5 hrs	8 to 12 hrs	
Exhibit Instrument, Projector, Measuring Instrument, Medical Machine						
Cleaner, Sewing Machine, Office Machine, Carpentry Lathe, Belt Sawing Machine						
Light Load Belt Conveyor, Packer, Sifter						
Liquid Mixer, Drill Press, Lathe, Screw Machine, (Circular Sawing) Machine, Planer, Washing Machine, Paper Manufacturing Machine (Excluding Pulp Manufacturing Machine), Printing Machine						
Mixer (Cement and Viscous Matter), Belt Conveyor (Ore, Coal and Sand), Grinder, Shaping Machine, Boring Machine, Milling Machine, Compressor (Centrifugal), Vibration Sifter, Textile Machine (Warper and Winder), Rotary Compressor, Compressor (Reciprocal)						
Conveyor (Apron, Pan, Bucket and Elevator), Extraction, Fan, Blower (Centrifugal, Suction and Discharge), Power Generator, Exciter, Hoist, Elevator, Rubber Processor (Calender, Roll and Extruder), Textile Machine (Weaving Machine, Fine Spinning Machine, Twisting Machine and Weft Winding Machine)						
Centrifugal Separator, Conveyor (Feed and Screw), Hammer Mill, Paper Manufacturing Machine (Pulpapitor)						

ⓘ Typical machines using a belt are listed above. For other machines using a belt, a load correction coefficient should be determined by reference to this table.
 ⓘ In the case of starts / stops over 100 times per day or rapid acceleration / deceleration, check the above values multiplied by 1.3. (MTS_M only)

Table 2. Speed Ratio Correction Coefficient (Kr)

Speed Ratio	Coefficient (Kr)
1.00 to 1.25	0
1.25 to 1.75	0.1
1.75 to 2.50	0.2
2.50 to 3.50	0.3
3.50 or more	0.4

Table 3. Idlers Correction Coefficient (Ki)

Position of Idler	Coefficient (Ki)
Outside the loose side of the belt	0
Inside the loose side of the belt	0.1
Outside the tensioned side of the belt	0.1
Inside the tensioned side of the belt	0.2

[Step 2-b] Calculating Design PowerFor P_M/UP_M Series

- Design Power (Pd) = Transmission Power (Pt) x Overload Factor (Ks)
- Calculate Transmission Power at Motor Rated Power Output. (It is ideal to calculate from the actual load applied to the belt.)
- Normal Motor Load Factor (Ks)=Ko+Ki+Kr+Kh

Ko : Application Coefficient (Table 4)
 Ki : Idler Correction Factor (Table 5)
 Kr : Speed Multiplication Correction Factor (Table 6)
 Kh : Operation Time Correction Factor (Table 7)

Table 4. Service Coefficient (Ko)

Type of Driven machine		Type of Motor		I	II	III
		Peak Output/Basic Output		200% or Less	200 to 300	300% or More
A	Extremely Smooth Transmission			1.0	1.2	1.4
B	Fairly Smooth Transmission			1.3	1.5	1.7
C	Transmission with Moderate Impact			1.6	1.8	2.0
D	Transmission with Considerable Impact			1.8	2.0	2.2
E	Transmission with Large Impact			2.0	2.2	2.5
Motor	AC Motor	Single-Phase		-	-	All Types
		Squirrel-Cage Induction	2 Poles	100kW or More	90~3.7kW	2.2kW or Less
			4 Poles	55kW or More	45kW or Less	-
			6 Poles	37kW or More	30kW or Less	-
			8 Poles	15kW or More	11kW or Less	-
		Wire-Wound	4 Poles	-	15kW or Less	11kW or Less
			6 Poles	-	11kW or Less	7.5kW or Less
			8 Poles	-	5.5kW or Less	3.7kW or Less
		Synchronous Motor		-	Average Torque	High Torque
		DC Motor		Shunt	Compound	Series
Internal Combustion Engine		8 or More Cylinders	7 ~ 5 Cylinders	4 ~ 2 Cylinders		
Hydraulic Motor		-	-	All Types		

Note) For transmission involving forward/reverse operation, a large moment of inertia, extremely large impact, etc., the basic service coefficient may be 2.5 or more.

Type	Typical Driven Machines
A	Measuring Instrument, Camera Device, Radar, Medical Machine, Projector
B	Belt Conveyor (For Light Load) Chain Conveyor (For Light Load) Driller Press, Lathe, Screw Machine Electric Typewriter, Calculator, Duplicator, Printing Press, Cutter, Paper Folder, Printer, Mixer, Calender-Dryer, Lathe, Belt Sawing Machine, Plane, Circular Sawing Machine, Planer, Mixer (Liquid), Bread Baking Machine, Flour Kneading Machine, Sifter (Drum and Cone), Sawing Machine
C	Belt Conveyor (Ore, Coal, Sand), Elevator, Boring Mill, Grinder, Milling Machine, Shaper, Metal Sawing Machine, Wind Hoist, Dryer, Washing Machine (Including a Wringer), Excavator, Mixer, Granulating Machine, Pump (Centrifugal, Gear and Rotary), Compressor (High-Speed Center), Stirrer, Mixer (Viscous Matter), Centrifugal Forced Blower, General Rubber Handling Machine, Power Generator, Sifter (Electric)
D	Conveyor (Apron, Bucket, Flight, Screw), Hoist, Cutting Press, Shattering Machine, Pulp Manufacturing Machine, Weaving Machine, Spinning Machine, Twisting Machine, Blender, Centrifugal Separator, Blower (Axial Flow, for Mining and Roots), General Construction Equipment, Hammer Mill, Rollgang
E	Crank Press, Pump (Reciprocal), Compressor (Reciprocating), Civil Engineering, Mining Equipment Including Crushing Machine (Ball, Rod, Gravel), Rubber Mixer

Table 5. Correction Coefficient when Idler is Used (Ki)

Location of Idler in Use	Inside	Outside
Loose Side of the Belt	0	+0.1
Tense Side of the Belt	+0.1	+0.2

Should be applied for each idler.

Table 6. Speed Increase Correction Coefficient (Kr)

Speed Increase Ratio	Correction Coefficient
1 to 1.25	0
1.25 to 1.75	+0.1
1.75 to 2.5	+0.2
2.5 to 3.5	+0.3
3.5 or more	+0.4

Table 7. Operating time Correction Coefficient (Kh)

Operation Hours	Correction Coefficient
Operated 10 or More Hours a Day	+0.1
Operated 20 or More Hours a Day	+0.2
Operated 500 Hours or Less (For Seasonal Operation)	-0.2

Timing Belt Selection of Transmission Timing Belts 2

[Step 2-c] For 2GT/3GT Series

• Design Power (Pd) = Transmission Power (Pt) × Overload Coefficient (Ks)

- Calculate the Transmission Power (Pt) from the motor rated power (Originally, it is ideal to calculate from the actual load applied to the belt)
- Normal Motor Load Factor (Ks) = $K_0 + K_i + K_r + K_h$

K₀ : Load Correction Factor (Table 8)

K_i : Idler Correction Factor (Table 9)

K_r : Speed Increase Correction Factor (Table 10)

K_h : Operation Time Correction Factor (Table 11)

<For Servo Motor Applications>

In the process of designing, apply K₀=2.5 for the rated torque and K₀=0.5 for the max. torque.

* If the max. torque is generated each time the belt system is started up or stopped, choose an applicable load correction factor K₀ from the Table 8., "Load Correction Factors based on Frequency of Start/Stop (K₀) operation," and apply it to the above expression.

<For Spindle Motor Applications>

In the process of designing, apply K₀=2.2 for the rated output and the basic rotation speed.

Table 8. Load Correction Factor (K₀)

Type of Motor		I	II	III	
Peak Output/Basic Output		150% or Less	Over 150%~200% or Less	Over 250%	
AC Motor	Single-Phase	–	–	All Types	
	Squirrel Cage Type	2 Phase	–	All Types	
		4 Phase	–	37Kw or More	30Kw or Less
		6 Phase - 8 Phase	–	–	All Types
	Wound Field Type	4 Phase	–	–	15Kw or Less
		6 Phase	–	–	11Kw or Less
		8 Phase	–	–	5.5Kw or Less
Synchronous Motor		–	Standard Torque Type	High Torque Type	
DC Motor		Shunt	Wound Field	Series	
Hydraulic Motor		–	–	All Types	
Office Machinery	Printer · Fax Machine · Copy Machine	–	1.2	1.4	
Home Appliance	Juicer	–	1.4	1.6	
	Vacuum Cleaner	1	1.2	1.4	
Finance Equipment	Money Exchanger · Ticket Machine · Ticket Gates · Bank Teller Machine	1.3	1.4	1.5	
Food · Medicine · Medical Equipment	Bakery Equipment	1.2	1.4	1.6	
	Mixer · Granulator	1.4	1.6	1.8	
	Centrifuge	1.5	1.7	1.9	
	Medical Machinery · Measurement Equipment	1	1.2	1.4	
Machine Tool	Drill Press · Lathe	1.2	1.4	1.6	
	Milling Machine	1.3	1.5	1.7	
	Wood Lather	1.2	1.4	1.6	
Printing Book Making	Printer · Book Making Machine · Cutter	1.2	1.4	1.6	
Textile Machine	Textile · Knitting Machinery	1.3	1.5	1.7	
Sawing Machine	Sawing Machine – Home Use	–	1.2	1.4	
	Sawing Machine – Industrial	–	1.6	1.8	
Belt Conveyor · Packaging Machine	Belt Conveyor – Light Objects	1.1	1.3	1.5	
	Packaging Machine	1.2	1.4	1.6	
Film · Wire Making Machine	Calender · Extruder	1.4	1.6	1.8	
	Wire Making Machinery	1.4	1.6	1.8	

Table 9. Idler Correction Factor (K_i)

Idler Position	Inside	Outside
Loose Side of the Belt	0	+0.1
Tense Side of the Belt	+0.1	+0.2

Table 11. Operation Time Correction Factor (K_h)

Operation Time	Correction Factor
Less than 10 hours (Everyday)	0
10~16 Hours Continuous (Everyday)	+0.2
16~24 Hours Continuous (Everyday)	+0.4
300 Hours/Year or Less (Seasonal operations etc.)	-0.2

Table 13. Load Correction Factor based on Frequency of Start/Stop (K₀) operation

When the frequency of Start/Stop is less than 100 times per day	K ₀ =1.5
When the frequency of Start/Stop is 100 times or more but less than 1,000 times per day	K ₀ =2.0
When the frequency of Start/Stop is more than 1,000 times per day	K ₀ =2.5

Table 10. Speed Multiplication Correction Factor (K_r)

Speed Increase Ratio	Correction Factor
1 or More Less than 1.25	0
1.25 or More Less than 1.75	+0.1
1.75 or More Less than 2.5	+0.2
2.5 or More Less than 3.5	+0.3
3.5 or More	+0.4

Table 12. Special Motor Correction Factor (K_p)

Motor Type	Load Correction Factor
Servo Motor	Design as K _p =2.5 for Rated Output, and K _p =0.5 for Peak Output (Rational speed as applied speed)
Spindle Motor	Design as K _p =2.2 for Rated Output and Base Rotational Speed

[Step 2-d] For EV5GT/EV8YU Series

• Design Power (Pd) = Transmission Power (Pt) x Overload Factor (Ks)

· Calculate Transmission Power at Motor Rated Power Output. (It is ideal to calculate from the actual load applied to the belt.)

· Overload Factor (Ks)=Ko+Ki+Kr+Kh+Km

Ko : Load Correction Factor (Table 14)

Ki : Idler Correction Factor (Table 15)

Kr : Speed Multiplication Correction Factor (Table 16)

Kh : Operation Time Correction Factor (Table 17)

Km : Start/Stop Correction Factor (Table 18)

· When converting the torque (Tq) into transmission power (Pd), calculate the applicable values by using the following expressions.

Torque (Tq)=tqxKs

Transmitting Power (Pd)=Tqxn/9550

Tq : Design Torque (N·m)

tq : Transmission Torque

Ks : Overload Factor

Pd : Design Power (kW)

n : Speed (rpm)

Table 14. Load Correction Factor (Ko)

Prime Motor Type		Induction Motor	Spindle Motor	Servo Motor (Peak Output/Rated Output)		
				200% or Less	201~299%	300% or More
Robot	Scara Type	2.0	2.0	1.6	1.7	1.8
Injection Mold Machine	Mold Fastening · Ball Screw Drive	1.8	1.8	1.3	1.4	1.5
Machine Tool	Lathe · Drill Press	1.6	1.3	1.2	1.3	1.4
Machine Tool	Milling Machine	1.7	1.3	1.2	1.3	1.4
Conveyor		1.8	1.8	1.4	1.5	1.6
Medical Machinery · Measurement Equipment		1.5	1.5	1.1	0.1	0.2
Packaging Machine		1.6	1.5	1.1	0.1	0.2
Agitator · Mixer	Liquid	1.6	1.6	1.2	1.3	1.4
	Viscous Material	1.7	1.7	1.3	1.4	1.5
Drilling Machine · Granulator		1.8	1.8	1.4	1.5	1.6
Centrifuge		1.9	1.9	1.5	1.6	1.7
Mills	Ball · Rods	2.2	2.2	1.7	1.8	1.9
Printing Machine · Book Making Machine		2.0	2.0	1.6	1.7	1.8
Paper Making Machine	Calender · Dryer	2.0	2.0	1.6	1.7	1.8
Textile Machine		2.0	2.0	1.6	1.7	1.8
Wire Related	Wire Drawing & Twisting Machine	2.1	2.0	1.6	0.1	0.2
Woodworking Machine		1.7	1.7	1.2	1.3	1.4
Pump		2.0	2.0	1.6	1.7	1.8
Compressor	Reciprocating · Rotating	2.0	2.0	1.6	1.7	1.8
Fan · Blower	Axial Flow · Roots	2.0	1.8	1.3	1.4	1.5
Generator · Exciter		1.8	1.8	1.4	1.5	1.6
Rubber Industry Machinery · Lumber Mill Machinery		2.0	2.0	1.6	1.7	1.8

Table 15. Idler Correction Factor (Ki)

No Idler	0
Inside Idler	0.1×(Qty-1)
Outside Idler	0.1×(Qty-1)

Table 17. Operation Time Correction Factor (Kh)

Operation Duration (Hours/Day)	Correction Factor
≤8	0.1
8<16	0.2
16≤	0.3

Table 16. Speed Multiplication Correction Factor (Kr)

Operation Duration (Hours/Day)	Correction Factor
1 or More Less than 1.25	0
1.25 or More Less than 1.75	0.1
1.75 or More Less than 2.5	0.2
2.5 or More Less than 3.5	0.3
3.5 or More	0.4

Table 18. Start/Stop Correction Factor (Km)

Start/Stop Frequency (Times/Day)	Correction Factor
≤10	0.1
11<100	0.2
101<500	0.3
501<	0.4

Timing Belt Selection of Transmission Timing Belts 3

[Step 3] Temporarily Selecting the Type of Belt from Selection Guide Table

Table 19. Selection Guide Table 1 (MXL, XL, L, H, T5, T10)

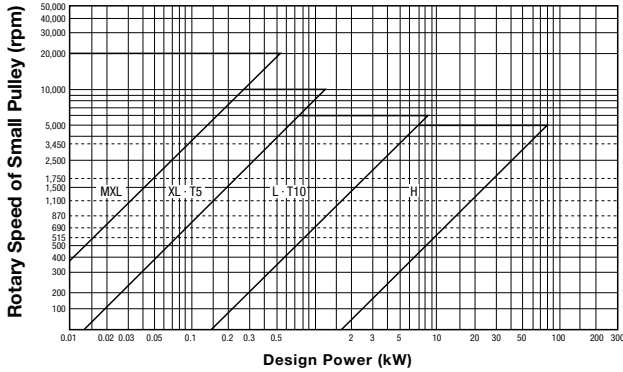


Table 20. Selection Guide Table 2 (S_M series)

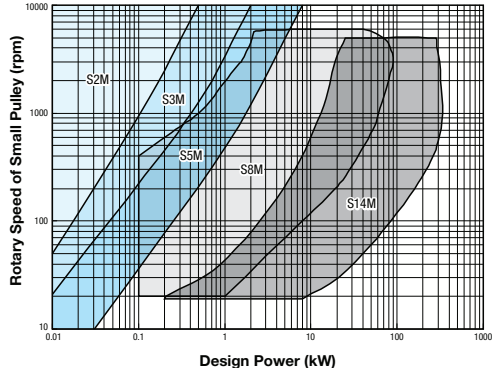


Table 21. Selection Guide Table 3 (P_M series)

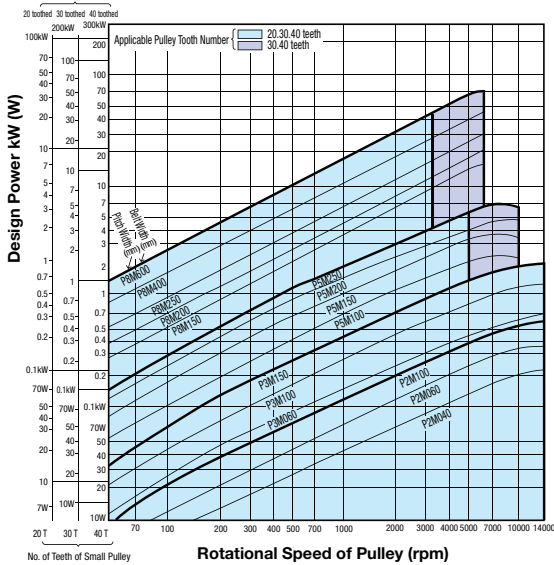


Table 22. Selection Guide Table 4 (MTS8M)

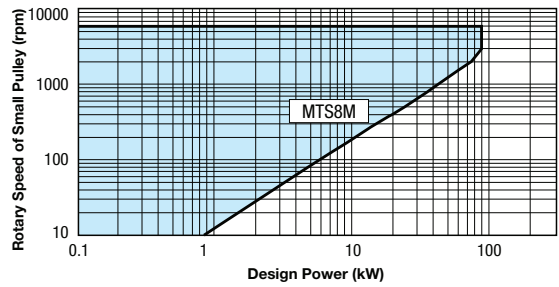


Table 23. Selection Guide Table 5 (UP_M series)

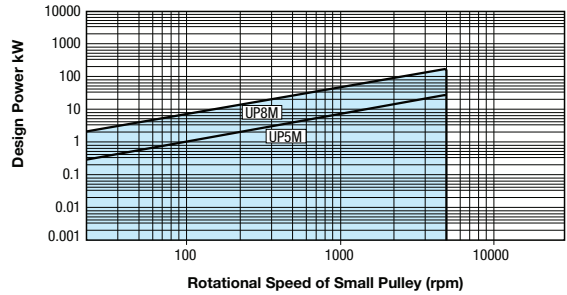


Table 24. Selection Guide Table (2GT-3GT series)

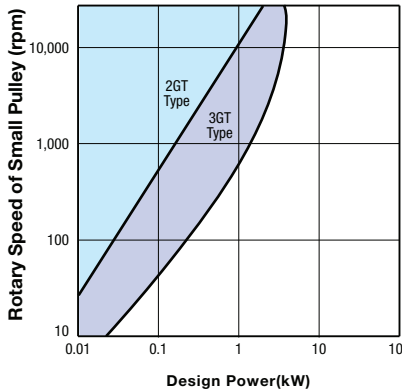
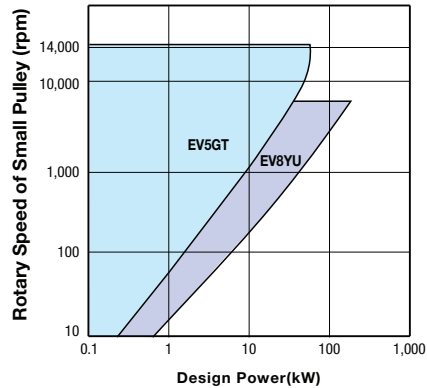


Table 25. Selection Guide Table (EV5GT-EV8YU series)



[Step 4] Determining Number of Teeth of Large and Small Pulley, Belt Length, Inter-Shaft Distance

- (1) Select the number of teeth of large and small pulley from P.125~135, which can satisfy the predetermined speed ratio.
(However, select the small pulley with number of teeth more than Min. Number of Teeth on Table 26.)

$$\text{Speed Ratio} = \frac{\text{Number of Teeth of Large Pulley}}{\text{Number of Teeth of Small Pulley}}$$

Table 26. Allowable min. number of teeth

Rotary Speed of Small Pulley (rpm)	Type of Belt, Minimum Number of Teeth																					
	MXL	XL	L	H	S2M	S3M	S5M	S8M	S14M	P2M	P3M	P5M	P8M	UP5M	UP8M	MTS8M	T5	T10	2GT	3GT	EV5GT	EV8YU
900 or Less	12	11	14	16	16	16	16	24	—	14	14	18	22	18	22	24	12	16	12	14	18	26
Over 900 1200 or Less	15	11	14	18	16	16	20	25	40	14	14	20	24	20	24	24	14	18	14	14	20	28
Over 1200 1800 or Less	15	12	16	20	18	18	24	28	48	14	14	24	26	24	26	26	16	20	16	16	24	32
Over 1800 3600 or Less	16	16	19	24	20	20	24	30	—	16	18	28	28	28	28	28	18	22	18	20	28	36
Over 3600 4800 or Less	—	16	20	24	20	20	24	32	—	18	20	30	30	30	30	28	18	22	20	20	30	—
Over 4800 10000 or Less	—	—	—	—	20	20	26	—	—	20	28	40	—	40	—	—	—	—	—	—	—	—

- (2) Determine approx. belt circum. length (Lp') in terms of temporary inter-shaft distance (C'), diameter of large pulley (Dp) and diameter of small pulley (dp).
(Calculate pulley diameter with P.D. dimensions.)

$$Lp' = 2C' + \frac{\pi(Dp+dp)}{2} + \frac{(Dp-dp)^2}{4C'}$$

C' : Temporary Inter-shaft Distance Dp : Pitch Diameter of Large Pulley (mm)
dp : Pitch Diameter of Small Pulley (mm) Lp' : Approx. Belt Circum. Length (mm)

- (3) Determine a belt circum. length (Lp') that is the nearest value to approx. belt circum calculate the correct inter-shaft distance using the following formula.

$$C = \frac{b + \sqrt{b^2 - 8(Dp-dp)^2}}{8}$$

b = 2Lp - π(Dp+dp)

Dp : Pitch Diameter of Large Pulley (mm) C : Inter-shaft Distance
dp : Pitch Diameter of Small Pulley (mm)
Lp : Belt Circum. Length (mm)

[Step 5] Determining Belt Width

- (1) Calculate an approx. belt width using the following formula, and then select a belt width (Bw':mm) that is the nearest value to the approximated value.

$$Bw' = \frac{Pd}{Ps \cdot Km} \times Wp$$

Pd: Design Power
Ps: Reference Transmission Capacity.....Use the Reference Transmission Capacity Table on P.125~135.
Km: Engagement Correction Coefficient (Table 27)
Wp: Reference Belt Width (Table 28)

Table 27. Engagement Correction Coefficient (Km)

No. of Teeth Engaged Zm	More than 6	5	4	3	2
Km	1.0	0.8	0.6	0.4	0.2
*Km	1.0	0.7	0.5	-	-

Table 28. Reference Belt Width (Wp)

Type of Belt	MXL	XL	L	H	S2M	S3M	S5M	S8M	S14M	MTS8M
Reference Belt Width	6.4	25.4	25.4	25.4	4	6	10	60	120	60

Type of Belt	P2M	P3M	P5M	P8M	T5	T10
Reference Belt Width	4	6	10	15	10	10

$$\text{No. of Teeth Engaged (Zm)} = \frac{Zd \cdot \theta}{360^\circ}$$

$$\theta = 180^\circ - \frac{57.3(Dp-dp)}{C}$$

Zd: No. of Teeth of Small Pulley Dp: Pitch Diameter of Large Pulley (mm) C: Inter-shaft Distance (mm)
θ : Contact Angle (°) dp: Pitch Diameter of Small Pulley (mm)

- (2) Check if Design Power (Pd) satisfies the following formula. (If not, select the belt width of one size larger again.)

☞ For belt types P□M and UP□M, substitute *Km for meshing compensation factor

· Pd < Ps · Km · Kb Pd : Design Power Km : Engagement Correction Coefficient Kl : Length Correction Coefficient (Table 30)
■ 2GT · 3GT · EV5GT · EV8YU Ps : Reference Transmission Capacity Kb : Width Correction Coefficient (Table 29)
· Pd < Ps · Km · Kb · Kl

Table 29. Width Correction Coefficient (Kb)

Type of Belt	Belt Width		Width Correction Coefficient Kb	Type of Belt	Belt Width		Width Correction Coefficient Kb	Type of Belt	Belt Width		Width Correction Coefficient Kb	Type of Belt	Belt Width		Width Correction Coefficient Kb
	Nominal	mm			Nominal	mm			Nominal	mm			Nominal	mm	
MXL	019	4.8	0.72	S2M	040	4	1.00	P2M	40	4	1.00	2GT	4	4	1.00
	025	6.4	1.00		060	6	1.59		60	6	1.59		6	6	1.67
	037	9.5	1.57		100	10	2.84		100	10	1.78		9	9	2.67
	050	12.7	2.18		060	6	1.00		150	15	2.84		6	6	1.00
XL	025	6.4	0.15	S3M	100	10	1.79	P3M	100	10	1.00	3GT	9	9	1.66
	031	7.9	0.21		150	15	2.84		150	15	1.59		15	15	2.97
	037	9.5	0.28		100	10	1.00		150	15	1.00		9	9	0.53
	050	12.7	0.42		150	15	1.59		250	25	1.79		12	12	0.76
L	050	12.7	0.42	S5M	250	25	2.84	P8M	100	10	1.00	EV5GT	15	15	1.00
	075	19.1	0.71		150	15	0.21		150	15	1.60		15	15	0.71
	100	25.4	1.00		250	25	0.37		200	20	2.30		20	20	1.00
	150	38.1	1.56		300	30	0.45		250	25	2.90		25	25	1.29
H	075	19.1	0.71	S8M	400	40	0.63	T5	150	15	1.60	EV8YU	15	15	0.71
	100	25.4	1.00		400	40	0.29		200	20	2.30		20	20	1.00
	150	38.1	1.56		600	60	0.45		250	25	2.90		25	25	1.29
	200	50.8	2.14		S14M	400	40		0.29	300	30		3.50	T10	400
			600	60		0.45	400	40	4.60	500	50	5.80			

Table 30. Length Correction Coefficient(KL)

Length Correction Coefficient(KL)	0.80	0.90	1.00	1.10	1.20
2GT Belt Length(mm)	130 or less	131~182	183~280	281~419	420 or less
3GT Belt Length(mm)	190 or less	191~260	261~400	401~599	600 or less
EV5GT Belt Length(mm)	440 or less	441~550	551~800	801~1100	1101 or less
EV8YU Belt Length(mm)	600 or less	601~900	901~1250	1251~1799	1800 or less

Timing Belt

Selection of Transmission Timing Belts 4

[Step 6] Check if Inter-Shaft Distance Adjustment Range is Larger than that in Table 30

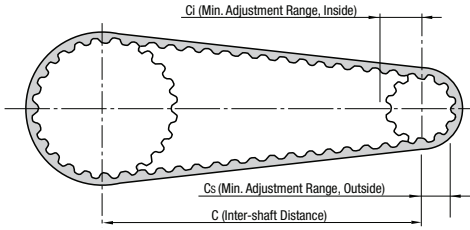


Table 31 Minimum Inter-Axial Distance Adjustment Range

Belt Length	Length Tolerance	Inter-Shaft Distance Tolerance	MXL		XL		L		H		S2M S3M S5M		S8M S14M		MTS8M		P2M P3M P5M		P8M		T5		T10	
			Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs
150 or Less	±0.35	±0.18	3		3		3		3		2		3		—		3		3		3		3	
150 to 250	±0.41	±0.21	3		3		3		3		2		3		3		3		3		3		3	
250 to 380	±0.46	±0.23	5		5		5		5		2		3		3		3		3		3		5	
380 to 500	±0.51	±0.26	10		10		10		10		2		3		3		3		3		3		10	
500 to 750	±0.60	±0.30	10		10		10		10		3		5		3		5		5		5		10	
750 to 1000	±0.66	±0.33	3	15	5	15	10	15	15	15	3	15	5	15	5	10	5	5	15	5	5	15	10	15
1000 to 1250	±0.76	±0.38	15		15		15		15		5		10		5		10		10		10		15	
1250 to 1500	±0.82	±0.41	25		25		25		25		5		10		10		10		10		10		25	
1500 to 1750	±0.86	±0.43	25		25		25		25		5		10		10		10		10		10		25	
1750 to 2000	±0.92	±0.46	30		30		30		30		5		10		10		10		10		10		30	

Belt Length	Length Tolerance	Inter-Shaft Distance Tolerance	2GT		3GT		EV5GT		EV8YU	
			Ci	Cs	Ci	Cs	Ci	Cs	Ci	Cs
150 or Less	±0.40	±0.20		3		3		3		3
Over 150	250 or Less	±0.40		3		3		3		3
Over 250	380 or Less	±0.46		3		3		3		3
Over 380	500 or Less	±0.50		3		3		3		3
Over 500	750 or Less	±0.60		5		5		5		5
Over 750	1000 or Less	±0.66	4	5	5	10		5	20	5
Over 1000	1250 or Less	±0.76		10		10		10		10
Over 1250	1500 or Less	±0.82		10		10		10		10
Over 1500	1750 or Less	±0.86		10		10		10		10
Over 1750	2000 or Less	±0.92		10		10		10		10

Precautions on Operation

- Be careful to avoid the ingress of foreign particles.
When solid foreign particles enter during operation, it can scratch the belt and adversely affect the engagement of the belt and the pulley. In some cases, the pulley may disengage, land on the teeth of the pulley, and be cut.
- Avoid Adhesion of oil.
Oil on the rubber timing belt may wet and expand it, drastically shortening its service life.
(a) Take special care when using solvent type oil.
(b) A small amount of lubricant or grease, however, rarely causes a trouble.
- Do not use the belt in a humid atmosphere.
- Please use a well-ventilated safety cover.
- The service life of the belt, when used at a high temperature (80°C or more), can be drastically shortened.

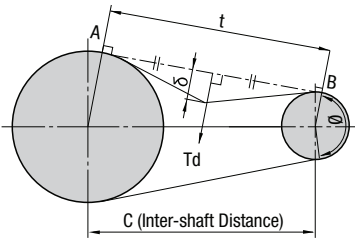
Reference Belt Width Tolerance (Unit: mm)

Belt Width	Belt Length			
	351 or Less	351 to 840	840 to 1680	1680 or More
10 or Less	+0.3 -0.6	+0.3 -0.6	+0.3 -0.6	+0.6 -0.6
10 to 40	+0.6 -0.6	+0.6 -0.6	+0.6 -0.6	+0.6 -0.6
40 to 50	+0.6 -0.6	+0.6 -0.6	+1.0 -1.0	+1.0 -1.3

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

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

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

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

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

Timing Belt Selection of Transmission Timing Belts 5

Table 33. Reference Transmission Capacity of MXL Ps -Nominal Width of Belts 025 (6.4mm)- (W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)															
		12	14	15	16	18	20	22	24	25	26	28	30	32	36	40	
		7.76	9.06	9.70	10.35	11.64	12.94	14.23	15.52	16.17	16.82	18.11	19.40	20.70	23.29	25.97	
950		9.0	10.5	11.3	12.0	13.5	15.0	16.5	18.0	18.8	19.6	21.1	22.6	24.1	27.1	30.1	
1160		11.0	12.8	13.8	14.7	16.5	18.4	20.2	22.0	23.0	23.9	25.7	27.6	29.4	33.1	36.7	
1425			15.8	16.9	18.0	20.3	22.6	24.8	27.1	28.2	29.3	31.6	33.9	36.1	40.6	45.1	
1750			19.4	20.8	22.2	24.9	27.7	30.5	33.3	34.7	36.0	38.8	41.6	44.3	49.9	55.4	
2850				33.9	36.1	40.6	45.1	49.6	54.1	56.4	58.6	63.1	67.6	72.1	81.0	90.0	
3450				41.0	43.7	49.2	54.6	60.1	65.5	68.2	70.9	76.3	81.7	87.1	97.9	108.6	
100		0.9	1.1	1.1	1.2	1.4	1.5	1.7	1.9	1.9	2.0	2.2	2.3	2.5	2.8	3.1	
200		1.9	2.2	2.3	2.5	2.8	3.1	3.4	3.8	3.9	4.1	4.4	4.7	5.0	5.7	6.3	
300		2.8	3.3	3.5	3.8	4.2	4.7	5.2	5.7	5.9	6.1	6.6	7.1	7.6	8.5	9.5	
400		3.8	4.4	4.7	5.0	5.7	6.3	6.9	7.6	7.9	8.2	8.8	9.5	10.1	11.4	12.6	
500		4.7	5.5	5.9	6.3	7.1	7.9	8.7	9.5	9.9	10.3	11.1	11.9	12.6	14.2	15.8	
600		5.7	6.6	7.1	7.6	8.5	9.5	10.4	11.4	11.9	12.3	13.3	14.2	15.2	17.1	19.0	
700		6.6	7.7	8.3	8.8	10.0	11.1	12.2	13.3	13.8	14.4	15.5	16.6	17.7	19.9	22.2	
800		7.6	8.8	9.5	10.1	11.4	12.6	13.9	15.2	15.8	16.5	17.7	19.0	20.3	22.8	25.3	
900		8.5	10.0	10.7	11.4	12.8	14.2	15.7	17.1	17.8	18.5	19.9	21.4	22.8	25.7	28.5	
1000		9.5	11.1	11.9	12.6	14.2	15.8	17.4	19.0	19.8	20.6	22.2	23.8	25.3	28.5	31.7	
1100		10.4	12.2	13.0	13.9	15.7	17.4	19.2	20.9	21.8	22.6	24.4	26.1	27.9	31.4	34.8	
1200		11.4	13.3	14.2	15.2	17.1	19.0	20.9	22.8	23.8	24.7	26.6	28.5	30.4	34.2	38.0	
1300			14.4	15.4	16.5	18.5	20.6	22.6	24.7	25.7	26.8	28.8	30.9	32.9	37.1	41.2	
1400			15.5	16.6	17.7	19.9	22.2	24.4	26.6	27.7	28.8	31.0	33.3	35.5	39.9	44.3	
1500			16.6	17.8	19.0	21.4	23.8	26.1	28.5	29.7	30.9	33.3	35.6	38.0	42.8	47.5	
1600			17.7	19.0	20.3	22.8	25.3	27.9	30.4	31.7	32.9	35.5	38.0	40.5	45.6	50.7	
1700			18.8	20.2	21.5	24.2	26.9	29.6	32.3	33.7	35.0	37.7	40.4	43.1	48.5	53.8	
1800			19.9	21.4	22.8	25.7	28.5	31.4	34.2	35.6	37.1	39.9	42.8	45.6	51.3	57.0	
2000				23.8	25.3	28.5	31.7	34.8	38.0	39.6	41.2	44.3	47.5	50.7	57.0	63.3	
2200				26.1	27.9	31.4	34.8	38.3	41.8	43.6	45.3	48.8	52.2	55.7	62.7	69.6	
2400				28.5	30.4	34.2	38.0	41.8	45.6	47.5	49.4	53.2	57.0	60.8	68.3	75.9	
2600				30.9	32.9	37.1	41.2	45.3	49.4	51.5	53.5	57.6	61.7	65.8	74.0	82.1	
2800					35.5	39.9	44.3	48.8	53.2	55.4	57.6	62.0	66.4	70.8	79.6	88.4	
3000					38.0	42.8	47.5	52.2	57.0	59.3	61.7	66.4	71.2	75.9	85.3	94.6	
3200					40.5	45.6	50.7	55.7	60.8	63.3	65.8	70.8	75.9	80.9	90.9	100.9	
3400					43.1	48.5	53.8	59.2	64.5	67.2	69.9	75.2	80.6	85.9	96.5	107.1	
3600					45.6	51.3	57.0	62.7	68.3	71.2	74.0	79.6	85.3	90.9	102.1	113.3	
3800						54.1	60.1	66.1	72.1	75.1	78.1	84.0	90.0	95.9	107.7	119.5	
4000						57.0	63.3	69.6	75.9	79.0	82.1	88.4	94.6	100.9	113.3	125.6	
4200						59.8	66.4	73.0	79.6	82.9	86.2	92.8	99.3	105.8	118.8	131.8	
4400						62.7	69.6	76.5	83.4	86.8	90.3	97.1	104.0	110.8	124.4	137.9	
4600						65.5	72.7	79.9	87.1	90.7	94.3	101.5	108.6	115.8	129.9	144.0	
4800						68.3	75.9	83.4	90.9	94.6	98.4	105.8	113.3	120.7	135.4	150.0	

* Endurance time will be reduced in □ □ □ marked area. Please avoid if possible.

* Values in the table above are for nominal belt width 025(6.4mm). For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

Table 34. Reference Transmission Capacity of XL Ps -Nominal Width of Belts 100 (25.4mm)- (kW)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)															
		10	11	12	14	15	16	18	19	20	21	22	24	25	26	28	30
		16.17	17.79	19.40	22.64	24.26	25.87	29.11	30.72	32.34	33.96	35.57	38.81	40.43	42.04	45.28	48.51
950		0.14	0.16	0.17	0.20	0.21	0.23	0.26	0.27	0.29	0.30	0.32	0.35	0.36	0.38	0.41	0.43
1160		0.17	0.19	0.21	0.25	0.26	0.28	0.32	0.33	0.35	0.37	0.39	0.42	0.44	0.46	0.50	0.53
1425			0.26	0.30	0.32	0.35	0.39	0.41	0.43	0.46	0.48	0.52	0.54	0.57	0.61	0.65	
1750			0.32	0.37	0.40	0.43	0.48	0.51	0.53	0.56	0.59	0.64	0.67	0.69	0.75	0.80	
2850			0.52	0.61	0.65	0.07	0.78	0.82	0.87	0.91	0.95	1.04	1.08	1.12	1.21	1.29	
3450			0.63	0.74	0.79	0.84	0.94	1.00	1.05	1.10	1.15	1.25	1.30	1.35	1.45	1.55	
100		0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	
200		0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.09	
300		0.04	0.05	0.05	0.06	0.06	0.07	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.12	0.13	
400		0.06	0.06	0.07	0.08	0.09	0.09	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.16	0.18	
500		0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.16	0.18	0.19	0.20	0.21	0.23
600		0.09	0.10	0.11	0.12	0.13	0.14	0.16	0.17	0.18	0.19	0.20	0.22	0.23	0.24	0.25	0.27
700		0.10	0.11	0.12	0.15	0.16	0.17	0.19	0.20	0.21	0.22	0.23	0.25	0.27	0.28	0.30	0.32
800		0.12	0.13	0.14	0.17	0.18	0.19	0.22	0.23	0.24	0.25	0.27	0.29	0.30	0.32	0.34	0.37
900		0.13	0.15	0.16	0.19	0.20	0.22	0.25	0.26	0.27	0.29	0.30	0.33	0.34	0.36	0.38	0.41
1000		0.15	0.16	0.18	0.21	0.23	0.24	0.27	0.29	0.30	0.32	0.33	0.37	0.38	0.40	0.43	0.46
1100		0.16	0.18	0.20	0.23	0.25	0.27	0.30	0.32	0.33	0.35	0.37	0.40	0.42	0.44	0.47	0.50
1200		0.18	0.20	0.22	0.25	0.27	0.29	0.33	0.35	0.37	0.38	0.40	0.44	0.46	0.48	0.51	0.55
1300			0.24	0.28	0.30	0.32	0.36	0.38	0.40	0.42	0.44	0.48	0.50	0.52	0.56	0.59	
1400			0.25	0.30	0.32	0.34	0.38	0.41	0.43	0.45	0.47	0.51	0.53	0.56	0.60	0.64	
1500			0.27	0.32	0.34	0.37	0.41	0.43	0.46	0.48	0.50	0.55	0.57	0.59	0.64	0.69	
1600			0.29	0.34	0.37	0.39	0.44	0.46	0.49	0.51	0.54	0.59	0.61	0.63	0.68	0.73	
1700			0.31	0.36	0.39	0.41	0.47	0.49	0.52	0.54	0.57	0.62	0.65	0.67	0.73	0.78	
1800			0.33	0.38	0.41	0.44	0.49	0.52	0.55	0.58	0.60	0.66	0.69	0.71	0.77	0.82	
2000			0.37	0.43	0.46	0.49	0.55	0.58	0.61	0.64	0.67	0.73	0.76	0.79	0.85	0.91	
2200			0.40	0.47	0.50	0.54	0.60	0.64	0.67	0.70	0.74	0.80	0.84	0.87	0.94	1.00	
2400			0.44	0.51	0.55	0.59	0.66	0.70	0.73	0.77	0.80	0.88	0.91	0.95	1.02	1.09	
2600			0.48	0.56	0.59	0.63	0.71	0.75	0.79	0.83	0.87	0.95	0.99	1.03	1.10	1.18	
2800			0.51	0.60	0.64	0.68	0.77	0.81	0.85	0.89	0.94	1.02	1.06	1.10	1.19	1.27	
3000			0.55	0.64	0.69	0.73	0.82	0.87	0.91	0.96	1.00	1.09	1.14	1.18	1.27	1.35	
3200			0.59	0.68	0.73	0.78	0.88	0.92	0.97	1.02	1.07	1.16	1.21	1.26	1.35	1.44	
3400			0.62	0.73	0.78	0.83	0.93	0.98	1.03	1.08	1.13	1.23	1.28	1.33	1.43	1.53	
3600			0.66	0.77	0.82	0.88	0.98	1.04	1.09	1.14	1.20	1.30	1.35	1.41	1.51	1.61	
3800				0.87	0.92	0.94	1.09	1.15	1.21	1.26	1.37	1.43	1.48	1.59	1.69		
4000				0.91	0.97	1.09	1.15	1.21	1.27	1.33	1.44	1.50	1.55	1.67			

Table 35. Reference Transmission Capacity of L Ps -Nominal Width of Belts 100 (25.4mm)-

(kW)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)																	
		12	14	15	16	18	19	20	21	22	24	25	26	28	30	32	36	40	48
		36.38	42.45	45.48	48.51	54.57	57.61	60.64	63.67	66.70	72.77	75.80	78.83	84.89	90.96	97.02	109.15	121.28	145.53
725	0.33	0.39	0.42	0.44	0.50	0.53	0.56	0.58	0.61	0.67	0.70	0.72	0.78	0.83	0.89	1.00	1.11	1.11	1.33
870	0.40	0.47	0.50	0.53	0.60	0.63	0.67	0.70	0.73	0.80	0.83	0.87	0.93	1.00	1.07	1.20	1.33	1.33	1.59
950	0.44	0.51	0.55	0.58	0.66	0.69	0.73	0.77	0.80	0.87	0.91	0.95	1.02	1.09	1.16	1.31	1.45	1.71	2.00
1160	0.53	0.62	0.67	0.71	0.80	0.85	0.89	0.93	0.98	1.07	1.11	1.15	1.24	1.33	1.41	1.59	1.76	2.09	2.52
1425		0.77	0.82	0.87	0.98	1.04	1.09	1.14	1.20	1.31	1.36	1.41	1.52	1.62	1.73	1.93	2.13	2.52	3.11
1750		0.94	1.01		1.07	1.20	1.27	1.34	1.40	1.47	1.59	1.66	1.72	1.85	1.97	2.10	2.34	2.58	3.00
2850					1.73	1.93	2.03	2.13	2.23	2.33	2.52	2.62	2.71	2.89	3.07	3.24	3.56	3.84	4.31
3450					2.07	2.31	2.43	2.54	2.66	2.77	2.99	3.09	3.19	3.39	3.58	3.76	4.07	4.33	4.67
100	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.12	0.13	0.15	0.18	0.21
200	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.27	0.30	0.37
300	0.13	0.16	0.17	0.18	0.20	0.22	0.23	0.24	0.25	0.27	0.29	0.30	0.32	0.34	0.37	0.41	0.46	0.55	0.67
400	0.18	0.21	0.23	0.24	0.27	0.29	0.30	0.32	0.34	0.37	0.38	0.40	0.43	0.46	0.49	0.55	0.61	0.74	0.91
500	0.23	0.27	0.29	0.30	0.34	0.36	0.38	0.40	0.42	0.46	0.48	0.50	0.54	0.58	0.61	0.69	0.77	0.92	1.10
600	0.27	0.32	0.34	0.37	0.41	0.44	0.46	0.48	0.51	0.55	0.58	0.60	0.64	0.69	0.74	0.83	0.92	1.10	1.28
700	0.32	0.37	0.40	0.43	0.48	0.51	0.54	0.56	0.59	0.64	0.67	0.70	0.75	0.81	0.86	0.97	1.07	1.28	1.46
800	0.37	0.43	0.46	0.49	0.55	0.58	0.61	0.64	0.68	0.74	0.77	0.80	0.86	0.92	0.98	1.10	1.22	1.46	1.68
900	0.41	0.48	0.52	0.55	0.62	0.66	0.69	0.73	0.76	0.83	0.86	0.90	0.97	1.03	1.10	1.24	1.37	1.64	1.81
1000	0.46	0.54	0.58	0.61	0.69	0.73	0.77	0.81	0.84	0.92	0.96	1.00	1.07	1.15	1.22	1.37	1.52	1.81	2.04
1100	0.51	0.59	0.63	0.68	0.76	0.80	0.84	0.89	0.93	1.01	1.05	1.09	1.18	1.26	1.34	1.51	1.67	1.99	2.19
1200	0.55	0.64	0.69	0.74	0.83	0.87	0.92	0.97	1.01	1.10	1.15	1.19	1.28	1.37	1.46	1.64	1.81	2.15	2.35
1300		0.70	0.75	0.80	0.90	0.95	1.00	1.05	1.09	1.19	1.24	1.29	1.39	1.48	1.58	1.77	1.96	2.32	2.48
1400		0.75	0.81	0.86	0.97	1.02	1.07	1.12	1.18	1.28	1.34	1.39	1.49	1.59	1.70	1.90	2.10	2.48	2.64
1500		0.81	0.86	0.92	1.03	1.09	1.15	1.20	1.26	1.37	1.43	1.48	1.59	1.70	1.81	2.03	2.24	2.64	2.80
1600		0.86	0.92	0.98	1.10	1.16	1.22	1.28	1.34	1.46	1.52	1.58	1.70	1.81	1.93	2.15	2.38	2.80	2.95
1700		0.91	0.98	1.04	1.17	1.23	1.30	1.36	1.42	1.55	1.61	1.68	1.80	1.92	2.04	2.28	2.51	2.95	3.10
1800		0.97	1.03	1.10	1.24	1.31	1.37	1.44	1.51	1.64	1.70	1.77	1.90	2.03	2.15	2.40	2.64	3.10	3.25
1900					1.16	1.31	1.38	1.45	1.52	1.59	1.73	1.80	1.86	2.00	2.13	2.27	2.52	2.77	3.24
2000					1.22	1.37	1.45	1.52	1.59	1.67	1.81	1.89	1.96	2.10	2.24	2.38	2.64	2.90	3.38
2200					1.34	1.51	1.59	1.67	1.75	1.83	1.99	2.06	2.14	2.29	2.44	2.59	2.87	3.14	3.64
2400					1.46	1.64	1.73	1.81	1.90	1.99	2.15	2.24	2.32	2.48	2.64	2.80	3.10	3.38	3.87
2500					1.52	1.70	1.80	1.89	1.97	2.06	2.24	2.32	2.41	2.58	2.74	2.90	3.20	3.49	3.98
2600					1.58	1.77	1.86	1.96	2.05	2.14	2.32	2.41	2.50	2.67	2.84	3.00	3.31	3.59	4.09
2800					1.70	1.90	2.00	2.10	2.20	2.29	2.48	2.58	2.67	2.85	3.02	3.19	3.51	3.80	4.27
3000					1.81	2.03	2.13	2.24	2.34	2.44	2.64	2.74	2.84	3.02	3.20	3.38	3.70	3.98	4.43
3200					1.93	2.15	2.27	2.38	2.48	2.59	2.80	2.90	3.00	3.19	3.38	3.55	3.87	4.15	4.56
3400					2.04	2.28	2.40	2.51	2.62	2.73	2.95	3.05	3.16	3.35	3.54	3.72	4.04	4.30	4.65
3600					2.15	2.40	2.52	2.64	2.76	2.87	3.10	3.20	3.31	3.51	3.70	3.87	4.18	4.43	4.71
3800					2.25	2.52	2.65	2.77	2.89	3.01	3.24	3.35	3.45	3.66	3.84	4.02	4.31	4.54	4.73
4000					2.64	2.77	2.90	3.02	3.14	3.28	3.49	3.59	3.80	3.98	4.15	4.43	4.62	4.72	5.00
4200					2.76	2.89	3.02	3.15	3.27	3.51	3.62	3.73	3.93	4.11	4.27	4.53	4.69	4.66	5.00
4400					2.87	3.01	3.14	3.27	3.40	3.64	3.75	3.85	4.05	4.23	4.38	4.61	4.72	4.56	5.00
4600					2.99	3.13	3.26	3.39	3.52	3.76	3.87	3.97	4.17	4.33	4.48	4.67	4.73	4.42	5.00
4800					3.10	3.24	3.38	3.51	3.64	3.87	3.98	4.09	4.27	4.43	4.56	4.71	4.72	4.23	5.00

* Endurance time will be reduced in □□□□ marked area. Please avoid if possible.

□ The circumferential speed of pulley is 33(m/s)or more; a dynamic balance for the pulley is essential.

* Values in the table above are for nominal belt width 100(25.4mm). For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

Table 36. Reference Transmission Capacity of H Ps -Nominal Width of Belts 100 (25.4mm)-

(kW)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)																
		14	15	16	18	19	20	21	22	24	25	26	28	30	32	36	40	48
		56.60	60.64	64.68	72.77	76.81	80.85	84.89	88.94	97.02	101.06	105.1	113.19	121.28	129.36	145.53	161.70	194.04
725	1.33	1.43	1.52	1.71	1.81	1.90	2.00	2.09	2.28	2.38	2.47	2.66	2.85	3.04	3.41	3.79	4.53	5.41
870	1.60	1.71	1.83	2.05	2.17	2.28	2.40	2.51	2.74	2.85	2.96	3.19	3.41	3.64	4.08	4.53	5.41	6.38
950			1.99	2.24	2.37	2.49	2.61	2.74	2.99	3.11	3.23	3.48	3.72	3.97	4.45	4.93	5.89	6.93
1160			2.43	2.74	2.89	3.04	3.19	3.34	3.64	3.79	3.94	4.23	4.53	4.82	5.41	5.99	7.12	8.31
1425				3.35	3.54	3.72	3.91	4.09	4.45	4.63	4.81	5.17	5.53	5.89	6.59	7.27	8.61	10.00
1750				4.11	4.33	4.55	4.78	5.00	5.44	5.66	5.87	6.31	6.73	7.16	7.98	8.79	10.32	11.93
2850						7.27	7.61	7.95	8.61	8.93	9.25	9.87	10.48	11.08	12.16	13.15	14.80	17.16
3450						8.68	9.07	9.45	10.19	10.55	10.91	11.59	12.24	12.85	13.95	14.87	16.93	19.39
100	0.18	0.19	0.21	0.23	0.25	0.26	0.27	0.28	0.31	0.32	0.34	0.36	0.39	0.42	0.47	0.52	0.63	0.75
200	0.36	0.39	0.42	0.47	0.50	0.52	0.55	0.57	0.63	0.65	0.68	0.73	0.79	0.84	0.94	1.05	1.26	1.50
300	0.55	0.59	0.63	0.71	0.75	0.79	0.83	0.86	0.94	0.98	1.02	1.10	1.18	1.26	1.42	1.57	1.89	2.24
400	0.73	0.79	0.84	0.94	1.00	1.05	1.10	1.15	1.26	1.31	1.36	1.47	1.57	1.68	1.89	2.10	2.52	2.97
500	0.92	0.98	1.05	1.18	1.25	1.31	1.38	1.44	1.57	1.64	1.71	1.84	1.97	2.10	2.36	2.62	3.14	3.71
600	1.10	1.18	1.26	1.42	1.50	1.57	1.65	1.73	1.89	1.97	2.05	2.20	2.36	2.52	2.83	3.14	3.76	4.43
700	1.29	1.38	1.47	1.65	1.75	1.84	1.93	2.02	2.20	2.30	2.39	2.57	2.75	2.93	3.30	3.66	4.38	5.16
800	1.47	1.57	1.68	1.89	1.99	2.10	2.20	2.31	2.52	2.62	2.73	2.93	3.14	3.35	3.76	4.17	4.99	5.87
900	1.65	1.77	1.89	2.13	2.24	2.36	2.48	2.60	2.83	2.95	3.06	3.30	3.53	3.76	4.22	4.68	5.59	6.57
1000			2.10	2.36	2.49	2.62	2.75	2.88	3.14	3.27	3.40	3.66	3.92	4.17	4.68	5.19	6.18	7.27
1100			2.31	2.60	2.74	2.88	3.02	3.17	3.45	3.59	3.74	4.02	4.30	4.58	5.14	5.69	6.77	7.93
1200			2.52	2.83														

Timing Belt Selection of Transmission Timing Belts 6

Table 37. Reference Transmission Capacity of S2M Ps -Belt Width 4mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)	14	15	16	18	20	22	24	25	26	28	30	32	36	40	44	48	50	60
			8.91	9.55	10.19	11.46	12.73	14.01	15.28	15.92	16.55	17.83	19.10	20.37	22.92	25.46	28.01	30.56	31.83	38.20
870	11	12	14	16	19	21	23	25	26	28	30	33	37	41	46	50	52	62	62	62
1160	13	15	17	20	23	26	29	31	32	35	38	41	46	52	57	62	65	77	77	77
1750	17	20	22	27	31	35	39	41	43	47	51	55	63	70	76	85	88	105	105	105
3500	20	24	28	34	41	49	58	63	67	77	83	90	102	115	128	143	143	170	170	170
50	1	1	1	2	2	2	2	2	2	2	2	3	3	3	4	4	5	5	5	6
100	2	2	2	3	3	3	4	4	4	4	5	5	6	6	7	8	8	9	11	11
150	3	3	3	4	4	4	5	5	5	6	6	7	7	8	9	10	11	12	12	15
200	4	4	4	5	5	5	6	6	6	7	7	8	8	9	10	11	13	14	16	19
250	4	5	5	6	6	6	7	7	8	9	10	10	11	12	14	15	17	18	19	23
300	5	5	6	7	7	7	8	9	10	11	11	12	13	14	16	18	19	21	22	26
350	6	6	7	8	8	9	10	11	12	13	14	15	16	18	20	22	24	25	28	30
400	6	7	8	9	10	11	13	13	14	15	16	18	19	20	22	25	27	30	31	33
450	7	8	9	10	11	12	14	15	16	17	18	20	21	22	25	27	30	31	34	37
500	7	8	9	11	12	14	15	16	17	18	20	21	24	27	29	32	33	36	37	40
550	8	9	10	11	13	15	16	17	18	20	21	23	26	29	32	35	36	40	41	44
600	8	9	10	12	14	16	18	18	19	21	23	24	28	31	34	37	39	44	46	49
650	9	10	11	13	15	17	19	20	21	22	24	26	30	33	36	40	41	45	47	50
700	9	10	12	14	16	18	20	21	22	24	26	28	31	35	39	42	44	50	51	52
750	10	11	12	14	17	19	21	22	23	25	27	29	33	37	41	44	46	55	55	58
800	10	12	13	15	17	20	22	23	24	26	28	31	35	39	43	47	49	58	58	61
850	11	12	13	16	18	21	23	24	25	28	30	32	36	41	45	49	51	61	61	63
900	11	13	14	16	19	22	24	25	26	29	31	34	38	43	47	51	53	63	63	66
950	12	13	14	17	20	22	25	26	28	30	33	35	40	44	49	53	56	66	66	69
1000	12	14	15	18	21	23	26	27	29	31	34	36	41	46	51	55	58	69	69	72
1100	13	14	16	19	22	25	28	29	31	34	36	39	44	50	55	60	62	74	74	77
1200	14	15	17	20	24	27	30	31	33	36	39	42	47	53	58	64	66	79	79	82
1300	14	16	18	22	25	28	32	33	35	38	41	44	50	56	62	68	71	84	84	87
1400	15	17	19	23	26	30	33	35	37	40	44	47	53	60	66	72	75	89	89	92
1500	16	18	20	24	28	31	35	37	39	42	46	49	56	63	69	75	79	94	94	97
1600	17	19	21	25	29	33	37	39	41	44	48	52	59	66	73	79	82	98	98	101
1700	17	19	22	26	30	34	39	41	43	46	50	54	62	69	76	83	86	103	103	106
1800	18	20	22	27	31	36	40	42	44	48	52	56	64	72	79	86	90	107	107	110
1900	18	21	23	28	33	37	42	44	46	50	55	59	67	75	82	90	94	111	111	114
2000	19	22	24	29	34	39	43	46	48	52	57	61	69	78	85	93	100	117	117	120
2200	20	23	25	31	36	41	46	49	51	56	61	65	74	83	92	100	104	124	124	127
2400	21	24	27	33	38	44	49	52	54	59	64	69	79	88	97	106	111	131	131	134
2600	22	25	28	35	40	46	52	55	57	63	68	73	84	93	103	112	117	139	139	142
2800	23	26	30	36	42	49	55	57	60	66	72	77	88	98	109	118	123	146	146	149
3000	24	28	31	38	44	51	57	60	63	69	75	81	92	103	114	124	129	153	153	156
3200	25	29	32	39	46	53	60	63	66	72	79	85	96	108	119	130	135	160	160	163
3400	26	30	33	41	48	55	62	65	69	75	82	88	100	112	124	135	140	167	167	170
3600	26	30	34	42	50	57	64	68	71	78	85	92	104	117	129	140	146	173	173	176
3800	27	31	35	44	51	59	67	70	74	81	88	95	108	121	133	145	151	179	179	182
4000	28	32	36	45	53	61	69	73	76	84	91	98	112	125	138	150	156	185	185	188
4500	29	34	39	48	57	66	74	78	82	90	98	106	121	135	149	162	168	199	199	202
5000	30	36	41	51	60	70	79	83	88	96	105	113	129	144	159	173	179	211	211	214
5500	32	37	43	53	63	74	83	88	93	102	111	119	136	152	168	183	190	223	223	226
6000	33	38	44	56	66	77	87	92	97	107	117	126	143	160	176	192	199	233	233	236
6500	34	40	46	58	69	80	91	97	102	112	122	132	150	168	184	200	208	243	243	246
7000	34	41	47	60	72	83	95	100	106	117	127	137	156	174	192	209	216	251	251	254
7500	34	41	48	61	74	86	98	104	110	121	132	142	162	181	198	215	223	259	259	262
8000	35	42	49	63	76	89	101	107	113	125	136	147	167	187	205	222	229	265	265	268
8500	35	43	50	64	78	91	104	110	116	128	140	151	172	192	210	227	235	270	270	273
9000	35	43	51	65	80	94	107	113	119	132	144	155	177	197	215	232	240	275	275	278

* Endurance time will be reduced in □ □ □ marked area. Please avoid if possible.

* Values in the table above are for 4mm belt width. For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

Table 38. Reference Transmission Capacity of S3M Ps -Belt Width 6mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)	14	15	16	18	20	22	24	25	26	28	30	32	36	40	44	48	50	60
			13.37	14.32	15.28	17.19	19.10	21.01	22.92	23.87	24.83	26.74	28.65	30.56	34.38	38.20	42.02	45.84	47.75	57.30
870	11	12	14	16	19	21	23	25	26	28	30	33	37	41	46	50	52	62	62	62
1160	13	15	17	20	23	26	29	31	32	35	38	41	46	52	57	62	65	77	77	77
1750	17	20	22	27	31	35	39	41	43	47	51	55	63	70	76	85	88	105	105	105
3500	20	24	28	34	41	49	58	63	67	77	83	90	102	115	128	143	143	170	170	170
50	1	1	1	2	2	2	2	2	2	2	2	3	3	3	4	4	5	5	5	6
100	2	2	2	3	3	3	4	4	4	4	5	5	6	6	7	8	8	9	11	11
150	3	3	3	4	4	4	5	5	5	6	6	7	7	8	9	10	11	12	12	15
200	4	4	4	5	5	5	6	6	6	7	7	8	8	9	10	11	13	14	16	19
250	4	5	5	6	6	6	7	7	8	9	10	10	11	12	14	15	17	18	19	23
300	5	5	6	7	7	7	8	9	10	11	11	12	13	14	16	18	19	21	22	26
350	6	6	7	8	8	9	10	11	12	13	14	15	16	18	20	22	24	25	28	30
400	6	7	8	9	10	11	13	13	14	15	16	18	19	20	22	25	27	30	31	33
450	7	8	9	10	11	12	14	15	16	17	18	20	21	22	25	27	30	31	34	37
500	7	8	9	11	12	14	15	16	17	18	20	21	24	27	29	32	33	36	37	40
550	8	9	10	11	13	15	16	17	18	20	21	23	26	29	32	35	36	40	41	44
600	8	9	10	12	14	16	18	18	19	21	23	24	28	31	34	37	39	44	46	49
650	9	10	11	13	15	17	19	20	21	22	24	26	30	33	36	40	41	45	47	50
700	9	10	12	14	16	18	20	21	22	24	26	28	31	35	39	42	44	50	51	52
750	10	11	12	14	17	19	21	22	23	25	27	29								

Table 39. Reference Transmission Capacity of S5M Ps -Belt Width 10mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley																
	14	15	16	18	20	22	24	25	26	28	30	32	36	40	44	48	60
Diameter of the Pitch Circle(mm)	22.28	23.87	25.46	28.65	31.83	35.01	38.20	39.79	41.38	44.56	47.75	50.93	57.30	63.66	70.03	76.39	95.49
870	173	192	210	246	282	317	352	369	386	420	453	486	551	614	677	738	916
1160	216	239	263	309	355	399	443	465	487	529	572	613	695	775	854	931	1154
1750	293	326	359	425	488	551	613	643	673	733	792	849	963	1073	1181	1296	1587
3500	475	534	592	707	812	922	1036	1085	1131	1233	1330	1426	1631	1825	2015	2212	2812
50	16	18	19	22	25	28	31	33	34	37	40	43	48	54	59	64	80
100	30	32	35	41	46	52	57	60	62	68	73	78	88	98	108	118	147
150	42	46	50	58	66	73	81	85	89	96	104	111	125	140	154	168	209
200	53	58	63	74	84	94	104	108	113	123	132	142	161	179	197	215	268
250	64	70	76	89	101	113	125	131	137	149	160	172	194	217	239	260	324
300	74	81	89	103	118	132	146	153	160	173	187	200	227	253	279	304	378
350	84	92	101	118	134	150	166	174	182	198	213	228	259	288	318	346	431
400	93	103	112	131	150	168	186	195	203	221	238	255	289	323	355	388	482
450	103	113	124	145	165	185	205	215	224	244	263	282	319	356	392	426	532
500	112	123	133	158	180	202	224	234	245	266	287	308	349	389	428	467	581
550	121	133	146	170	195	218	242	254	265	288	311	333	378	421	464	506	629
600	129	143	156	183	209	235	260	272	285	310	334	358	406	453	499	544	676
650	138	152	167	195	223	250	278	291	304	331	357	383	434	484	533	581	722
700	146	161	177	207	237	266	295	309	323	351	379	407	461	514	566	618	767
750	154	171	187	219	250	281	312	327	342	372	401	431	488	544	599	654	812
800	162	179	197	231	264	296	329	345	361	392	423	454	514	574	632	689	856
850	170	188	206	242	277	311	345	362	379	412	445	477	541	603	664	724	899
900	178	197	216	253	290	326	362	379	397	432	466	500	566	629	692	755	941
950	185	205	225	264	303	341	378	396	415	451	487	522	592	656	720	783	983
1000	193	214	234	275	315	355	394	413	432	470	507	544	617	682	748	812	1025
1100	207	230	252	297	340	383	425	446	466	507	548	588	666	733	801	862	1106
1200	221	246	270	318	364	410	458	478	500	544	588	630	715	797	877	956	1185
1300	235	261	287	338	388	437	485	507	530	576	620	662	751	834	915	994	1242
1400	248	276	304	358	411	463	515	540	565	615	664	713	808	901	982	1061	1338
1500	262	291	320	378	434	489	543	570	597	649	701	753	853	951	1047	1141	1411
1600	274	305	336	397	456	514	570	600	628	683	738	792	898	1001	1102	1200	1483
1700	287	319	352	415	475	539	598	629	658	717	774	830	941	1049	1155	1258	1553
1800	299	333	367	434	496	563	625	657	688	749	809	868	984	1097	1207	1314	1621
1900	311	347	382	452	520	587	652	685	717	781	844	905	1026	1144	1258	1370	1688
2000	323	360	397	470	541	611	679	713	746	813	878	942	1068	1189	1306	1424	1753
2200	346	386	426	504	581	656	730	767	803	874	944	1013	1148	1279	1406	1529	1879
2400	367	411	454	538	620	701	781	820	859	934	1008	1082	1228	1365	1500	1630	2052
2600	389	435	480	570	658	744	828	870	911	991	1071	1149	1301	1448	1590	1727	2111
2800	409	458	507	602	695	786	875	919	962	1048	1132	1214	1374	1528	1677	1820	2218
3000	429	481	532	633	731	826	920	967	1012	1102	1190	1277	1446	1606	1761	1910	2319
3200	448	502	556	662	765	862	959	1009	1056	1150	1247	1337	1515	1680	1841	1995	2414
3400	468	524	580	691	798	896	1008	1059	1108	1206	1303	1397	1585	1754	1920	2082	2502
3600	484	544	603	719	832	942	1049	1102	1154	1256	1356	1454	1642	1821	1992	2155	2584
3800	501	564	626	747	864	978	1090	1145	1199	1305	1408	1509	1704	1888	2062	2227	2659
4000	518	583	647	773	895	1014	1130	1186	1242	1352	1459	1563	1763	1951	2129	2296	2728
4500	559	629	699	838	971	1098	1225	1285	1345	1463	1578	1689	1901	2100	2282	2462	2870
5000	595	672	748	896	1039	1177	1312	1377	1441	1566	1688	1804	2025	2228	2414	2581	2966
5500	629	712	793	951	1104	1251	1393	1462	1530	1661	1788	1909	2135	2340	2523	2683	3014
6000	661	749	835	1003	1164	1319	1468	1540	1611	1747	1878	2002	2231	2434	2609	2756	3011
6500	690	783	874	1051	1220	1382	1537	1612	1685	1825	1958	2084	2312	2508	2672	2800	2955
7000	716	814	914	1106	1286	1458	1623	1700	1775	1925	2059	2186	2424	2630	2802	2941	3111
7500	741	843	943	1137	1320	1493	1657	1735	1811	1955	2090	2213	2428	2598	2720	2791	2666
8000	763	870	974	1174	1363	1540	1708	1787	1863	2007	2140	2260	2462	2611	2703	2735	2422
8500	783	894	1001	1208	1402	1583	1752	1831	1908	2050	2179	2294	2497	2602	2658	2643	2127
9000	801	915	1026	1239	1436	1620	1790	1869	1944	2084	2208	2315	2479	2570	2583	2513	1745

* Endurance time will be reduced in □ □ □ marked area. Please avoid if possible.

* □ □ □ The circumferential speed of pulley is 33(m/s) or more; a dynamic balance for the pulley is essential.

* Values in the table above are for 10mm belt width. For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

Table 40. Reference Transmission Capacity of S8M Ps -Belt Width 60mm-

(kW)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley																		
	20	21	22	24	25	26	28	30	32	34	36	38	40	44	48	50	60	72	84
Diameter of the Pitch Circle(mm)	50.93	53.48	56.02	61.12	63.66	66.21	71.30	76.39	81.49	86.58	91.67	96.77	101.86	112.05	122.23	127.32	152.79	183.35	213.90
870	6.38	6.70	7.02	7.66	7.98	8.29	8.93	9.56	10.20	10.83	11.47	12.10	12.73	14.00	15.25	15.88	19.01	22.73	26.41
1160	8.51	8.93	9.35	10.20	10.62	11.05	11.89	12.73	13.58	14.42	15.25	16.09	16.93	18.60	20.26	21.08	25.19	30.03	34.77
1750	12.81	13.44	14.07	15.54	15.97	16.61	17.97	19.12	20.27	21.42	22.57	23.72	24.87	27.73	30.59	31.42	38.14	46.29	52.59
3200	25.33	26.56	27.78	30.20	31.40	32.59	34.96	37.25	39.60	41.86	44.09	46.28	48.42	53.62	58.82	62.02	75.09	80.26	92.41
50	0.37	0.39	0.40	0.44	0.46	0.48	0.51	0.55	0.59	0.62	0.66	0.68	0.73	0.81	0.88	0.92	1.10	1.32	1.54
100	0.73	0.77	0.81	0.88	0.92	0.95	1.03	1.10	1.18	1.25	1.32	1.40	1.47	1.62	1.76	1.84	2.20	2.64	3.08
150	1.07	1.14	1.22	1.31	1.36	1.41	1.52	1.61	1.70	1.79	1.88	2.00	2.14	2.33	2.52	2.60	3.16	3.81	4.52
200	1.47	1.55	1.62	1.76	1.84	1.91	2.06	2.20	2.35	2.50	2.64	2.79	2.94	3.23	3.52	3.67	4.40	5.28	6.16
250	2.20	2.31	2.42	2.64	2.75	2.86	3.08	3.30	3.52	3.74	3.95	4.16	4.40	4.84	5.28	5.50	6.67	8.04	9.24
300	2.94	3.08	3.23	3.52	3.67	3.82	4.11	4.40	4.70	4.99	5.28	5.58	5.87	6.46	7.04	7.34	8.80	10.55	12.30
350	3.67	3.85	4.04	4.40	4.59	4.77	5.14	5.50	5.87	6.24	6.60	6.97	7.34	8.07	8.80	9.16	10.99	13.17	15.34
400	4.40	4.62	4.84	5.28	5.50	5.72	6.16	6.60	7.04	7.48	7.92	8.36	8.80	9.67	10.55	10.99	13.17	15.78	18.37
450	5.14	5.38	5.65	6.16	6.42	6.68	7.19	7.70	8.21	8.72	9.24	9.75	10.26	11.20	12.20	12.60	15.15	18.37	21.37
500	5.87	6.16	6.46	7.04	7.34	7.63	8.21	8.80	9.38	9.97	10.56	11.13	11.71	12.88	14.04	14.62	17.51	20.94	24.34
550	6.60	6.93	7.26	7.92	8.25	8.58	9.24	9.89	10.55	11.21	11.86	12.52	13.17	14.47	15.78	16.42	19		

Timing Belt Selection of Transmission Timing Belts 7

Table 41. Reference Transmission Capacity of S14M Ps -Belt Width 120mm- (kW)

Pulley Size (mm)	Pulley Speed of Small Pulley (rpm)														
	28	30	32	34	36	40	42	44	48	50	56	60	64	72	84
575	124.78	133.69	142.60	151.52	160.43	178.25	187.17	196.08	213.90	222.82	249.55	267.38	285.21	320.86	374.33
690	32.08	34.36	36.63	38.90	41.17	45.68	47.94	50.19	54.67	56.91	63.58	68.00	72.39	81.0	93.92
870	39.45	41.7	43.88	46.59	49.29	54.67	57.36	60.03	65.35	68.00	75.89	81.09	86.26	96.44	111.32
1160	48.35	51.75	54.54	58.52	61.88	68.57	71.90	75.20	81.77	85.03	94.68	101.02	107.27	119.49	136.99
1750	64.12	68.57	73.00	77.40	81.77	90.41	94.69	98.92	107.27	111.39	123.46	131.27	138.87	153.39	173.25
3450	95.20	101.57	107.84	114.03	120.11	131.93	137.68	143.29	154.11	159.32	174.00	182.96	191.21	205.36	220.00
20	1.12	1.20	1.28	1.36	1.44	1.60	1.68	1.76	1.92	2.00	2.24	2.40	2.56	2.88	3.36
40	2.24	2.40	2.56	2.72	2.88	3.20	3.36	3.52	3.84	4.00	4.48	4.80	5.12	5.76	6.71
60	3.36	3.60	3.84	4.08	4.32	4.80	5.04	5.28	5.76	6.00	6.71	7.19	7.67	8.63	10.07
80	4.48	4.80	5.12	5.44	5.76	6.39	6.71	7.03	7.67	7.99	8.95	9.59	10.23	11.51	13.42
90	5.04	5.40	5.76	6.12	6.47	7.19	7.55	7.91	8.63	8.99	10.07	10.79	11.51	12.94	15.10
100	5.60	6.00	6.39	6.79	7.19	7.99	8.39	8.79	9.59	9.99	11.19	11.99	12.79	14.38	16.77
200	11.19	11.99	12.78	13.58	14.38	15.98	16.78	17.57	19.17	19.96	22.35	23.94	25.53	28.71	33.47
300	16.78	17.97	19.17	20.36	21.56	23.94	25.14	26.33	28.71	29.90	33.47	35.84	38.21	42.94	49.99
400	22.35	23.94	25.53	27.12	28.71	31.88	33.47	35.05	38.21	39.79	44.51	47.65	50.78	57.01	66.27
500	27.92	29.90	31.88	33.86	35.84	39.79	41.76	43.74	47.68	49.60	55.45	59.33	63.20	70.87	82.22
600	33.47	35.84	38.21	40.58	42.94	47.68	49.60	52.34	57.00	59.33	66.27	70.87	75.43	84.47	97.76
700	39.00	41.76	44.51	47.26	49.99	55.45	58.19	60.88	66.26	68.95	76.35	82.22	87.45	97.76	112.80
800	44.51	47.65	50.77	53.90	57.01	63.19	66.27	69.34	75.43	78.46	87.45	93.36	99.21	110.68	127.26
900	49.99	53.51	57.00	60.49	63.97	70.87	74.29	77.70	84.47	87.82	97.75	104.27	110.68	123.19	141.06
1000	55.45	59.33	63.19	67.04	70.87	78.46	82.22	85.96	93.36	97.03	107.84	114.90	121.82	135.23	154.11
1100	60.88	65.12	69.34	73.54	77.70	85.96	90.05	94.10	102.11	106.06	117.68	125.23	132.60	146.75	166.35
1200	66.27	70.87	75.43	79.97	84.47	93.36	97.76	102.11	110.68	114.90	127.26	135.23	142.97	157.70	177.67
1300	71.63	76.57	81.47	86.34	91.16	100.66	105.35	109.97	119.07	123.53	136.53	144.87	152.91	168.02	188.00
1400	76.95	82.22	87.45	92.63	97.76	107.84	112.80	117.69	127.26	131.94	145.49	154.12	162.37	177.67	197.26
1500	82.22	87.82	93.36	98.85	104.27	114.90	120.11	125.23	135.23	140.10	154.11	162.94	171.32	186.69	205.36
1600	87.45	93.36	99.21	104.99	110.68	121.82	127.26	132.60	142.97	148.00	162.36	171.31	179.72	194.73	212.22
1700	92.63	98.85	104.99	111.04	116.99	128.60	134.25	139.78	150.46	155.62	170.22	179.21	187.53	202.03	217.76
1800	97.76	104.27	110.68	116.99	123.19	135.23	141.06	146.75	157.70	162.94	177.67	186.59	194.73	208.45	221.89
1900	102.83	109.62	116.29	122.85	129.27	141.70	147.69	153.51	164.65	169.95	184.67	193.43	201.26	213.94	224.54
2000	107.85	114.90	121.82	128.61	135.23	147.99	154.12	160.05	171.31	176.63	191.21	199.69	207.11	218.44	225.82
2100	112.80	120.10	127.26	134.25	141.06	154.11	160.34	166.35	177.67	182.96	197.25	205.36	212.22	221.89	
2200	117.69	125.23	132.60	139.78	146.75	160.05	166.35	172.40	183.70	188.93	202.79	210.39	216.56	224.26	
2300	122.51	130.27	137.83	145.19	152.30	165.78	172.13	178.18	189.39	194.51	207.78	214.76	220.10	225.47	
2400	127.26	135.23	142.97	150.47	157.70	171.31	177.67	183.70	194.72	199.69	212.22	218.43	222.80	225.50	
2500	131.94	140.10	147.99	155.62	162.94	176.63	182.97	188.93	199.69	204.46	216.06	221.39	224.63		
2600	136.54	144.87	152.90	160.63	168.02	181.82	188.00	193.86	204.27	208.78	219.29	223.59	225.54		
2700	141.06	149.54	157.70	165.51	172.93	186.58	192.77	198.49	208.45	212.66	221.89	225.01	225.50		
2800	145.50	154.12	162.36	170.23	177.67	191.21	197.26	202.79	212.22	216.06	223.83	225.82			
2900	149.85	158.58	166.90	174.80	182.22	195.58	201.46	206.76	215.55	218.98	225.08				
3000	154.12	162.94	171.31	179.21	186.59	199.69	205.36	210.39	218.43	221.39	225.82				
3100	158.29	167.19	175.58	183.46	190.76	203.53	208.95	213.66	220.86	223.28					
3200	162.37	171.31	179.71	187.53	194.73	207.10	212.22	216.56	222.80	224.63					
3300	166.35	175.32	183.70	191.44	198.49	210.39	215.16	219.09	224.25	225.42					
3400	170.23	179.21	187.53	195.16	202.03	213.37	217.76	221.22	225.20	225.63					
3500	174.00	182.96	191.21	198.69	205.36	216.06	220.01	223.94	225.82						
3600	177.67	186.59	194.72	202.04	208.45	218.43	221.89	224.26							
3700	181.23	190.08	198.08	205.18	211.32	220.49	223.41	225.14							
3800	184.67	193.43	201.26	208.12	213.94	222.51	224.54	225.58							
3900	188.00	196.63	204.27	210.86	216.31	223.59	225.28	225.58							
4000	191.21	199.69	207.10	213.38	218.44	224.63	225.82								
4100	194.30	202.60	209.75	215.68	220.30	225.30									
4200	197.26	205.36	212.22	217.76	221.89	225.82									
4300	200.09	207.95	214.49	219.61	223.21										
4400	202.79	210.39	216.56	221.22	224.26										
4500	205.36	212.66	218.43	222.59	225.01										
4600	207.79	214.76	220.10	223.71	225.47										
4700	210.08	216.68	221.56	224.58	225.64										
4800	212.22	218.43	222.80	225.20											
4900	214.22	220.00	223.83	225.55											
5000	216.06	221.39	224.63	225.63											

* Endurance time will be reduced in [] marked area. Please avoid if possible.
 * The circumferential speed of pulley is 33 (m/s) or more in the [] marked range; a dynamic balance for the pulley is essential.
 * The above table assumes the reference belt width of 120mm. For belts other than 120mm wide, multiply the compensation factors Kb from Table 29.

Table 42. Reference Transmission Capacity of MTS8M Ps -Belt Width 60mm- (kW)

Pulley Size (mm)	Pulley Speed of Small Pulley (rpm)																
	24	26	28	30	32	34	36	38	40	42	44	46	48	50	60	72	84
50	61.12	66.21	71.30	76.39	81.49	86.58	91.67	96.77	101.86	106.95	112.05	117.14	122.23	127.32	152.79	183.35	213.90
100	1.35	1.47	1.58	1.70	1.82	1.93	2.05	2.17	2.27	2.37	2.46	2.56	2.66	2.75	3.21	3.75	4.27
200	2.71	2.94	3.17	3.40	3.63	3.87	4.11	4.35	4.54	4.74	4.93	5.12	5.31	5.50	6.42	7.50	8.54
300	4.91	5.32	5.73	6.15	6.57	6.99	7.42	7.85	8.20	8.54	8.89	9.22	9.56	9.89	11.52	13.41	15.23
400	6.91	7.48	8.06	8.64	9.23	9.83	10.43	11.04	11.52	12.00	12.47	12.94	13.41	13.87	16.12	18.71	21.20
500	8.77	9.50	10.23	10.98	11.73	12.48	13.25	14.02	14.63	15.23	15.82	16.41	16.99	17.57	20.38	23.62	26.72
600	10.53	11.40	12.29	13.18	14.08	14.99	15.92	16.85	17.57	18.28	18.99	19.69	20.38	21.07	24.40	28.22	31.88
700	12.20	13.22	14.24	15.28	16.33	17.39	18.46	19.55	20.38	21.20	22.02	22.82	23.62	24.40	28.22	32.59	36.76
800	13.80	14.95	16.11	17.29	18.48	19.69	20.91	22.15	23.09	24.01	24.92	25.82	26.72	27.60	31.88	36.76	41.39
900	15.32	16.61	17.91	19.23	20.56	21.91	23.28	24.66	25.70	26.72	27.72	28.72	29.70	30.68	35.39	40.74	45.81
1000	16.79	18.21	19.64	21.09	22.56	24.05	25.56	27.10	28.22	29.34	30.44	31.52	32.59	33.65	38.77	44.57	50.04
1100	18.21	19.75	21.31	22.89	24.50	26.13	27.78	29.46	30.68	31.88	33.06	34.23	35.39	36.53	42.		

Table 43. Reference Transmission Capacity of P2M Ps -Belt Width 4mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)																	
		14	15	16	18	20	22	24	25	26	28	30	32	34	36	40	42	44	48
		8.91	9.55	10.19	11.46	12.73	14.01	15.28	15.92	16.55	17.83	19.10	20.37	21.65	22.92	25.46	26.74	28.01	30.56
100	2	2	2	2	3	3	3	3	3	4	4	5	5	6	7	7	8	9	
200	3	3	4	5	5	6	7	7	7	8	9	10	11	11	13	14	15	17	
400	6	6	7	8	9	10	11	12	13	14	15	16	17	19	22	24	25	28	
600	8	9	10	11	12	14	16	17	18	19	20	22	23	25	29	31	33	37	
800	10	11	12	13	16	18	19	20	21	23	25	27	29	31	36	38	41	46	
1000	12	13	14	16	18	20	23	24	25	27	30	32	34	37	42	45	48	54	
1200	14	15	16	19	21	23	26	26	28	31	34	37	40	42	48	51	54	61	
1400	16	17	18	21	24	26	29	30	32	35	38	41	44	47	54	57	61	68	
1450	16	18	19	21	24	27	30	31	33	36	39	42	45	48	55	59	62	70	
1500	16	18	19	22	25	28	31	32	34	37	40	43	46	50	57	60	64	71	
1600	17	18	20	23	26	29	32	33	35	39	43	46	49	53	60	64	67	75	
1750	19	20	22	25	28	31	35	37	38	42	45	49	53	56	64	68	71	79	
1800	19	21	23	25	29	32	35	37	38	42	46	50	54	57	65	69	73	81	
2000	21	22	24	28	31	34	38	40	42	46	50	54	58	62	70	74	78	87	
2400	24	26	28	32	36	40	44	46	48	52	56	61	65	70	80	85	89	99	
3000	30	32	37	42	46	52	54	57	62	67	72	77	82	93	98	102	115		
3600	35	38	43	48	53	59	62	64	70	76	82	88	94	106	112	118	131		
4000	38	41	47	52	58	64	67	70	76	82	88	94	101	114	120	127	140		
5000		48	55	61	68	75	78	82	89	96	104	111	118	132	139	147	162		
6000		55	63	70	78	86	90	93	101	109	117	125	133	149	157	164	180		
8000			76	86	95	105	109	114	123	132	141	150	158	176	184	192	209		
10000			91	101	111	122	127	132	142	151	161	170	178	196	203	210	224		
12000				114	125	136	141	146	157	166	175	183	190	206	211	217	228		
14000				125	136	148	153	158	168	176	185	190	196	208	214	220	232		

* Endurance time will be reduced in [] marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

Table 44. Reference Transmission Capacity of P3M Ps -Belt Width 6mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)																	
		10	12	14	15	16	18	20	22	24	25	26	28	30	32	34	36	40	42
		9.55	11.46	13.37	14.32	15.28	17.19	19.10	20.01	22.92	23.87	24.83	26.74	28.65	30.56	32.47	34.38	38.20	40.11
100	4	5	6	6	7	8	9	10	12	12	13	14	15	17	19	20	22	23	
200	8	11	12	13	14	16	18	20	23	24	25	28	31	34	36	38	45	47	
400	14	17	20	22	24	27	32	35	39	41	43	47	51	56	61	65	75	79	
600	19	23	28	30	33	37	42	47	53	55	58	63	69	75	81	87	100	105	
800	24	29	35	38	41	46	53	59	65	68	72	79	85	92	99	107	123	129	
1000	28	35	41	44	48	55	62	69	77	81	84	92	100	109	118	126	144	151	
1200	33	40	47	51	55	63	71	79	88	92	97	106	115	125	135	144	164	172	
1400	37	45	54	58	62	71	80	89	99	104	109	119	129	140	151	162	184	193	
1450	38	46	55	59	64	72	82	90	102	106	111	122	133	144	155	166	188	197	
1500	39	47	56	60	65	75	84	93	104	109	114	125	135	147	158	170	193	202	
1600	41	49	59	63	68	79	88	98	109	114	120	131	142	154	166	178	202	212	
1750	44	54	63	68	74	84	95	106	118	124	129	141	153	165	177	190	215	226	
1800	55	65	70	75	86	97	108	120	126	131	143	155	168	181	193	219	230		
2000	59	70	75	81	93	105	117	129	135	142	155	168	182	196	209	237	249		
2400	68	81	87	93	107	121	134	148	155	162	177	192	207	223	238	270	284		
3000	95	103	112	125	142	158	175	183	191	208	226	243	261	279	316	332			
3600	110	118	127	145	163	182	201	210	219	238	258	278	298	318	359	377			
4000	119	128	138	158	176	196	216	226	236	257	278	299	321	342	386	405			
5000	141	152	163	186	208	231	255	267	278	302	326	351	375	399	448	470			
6000		174	187	212	238	264	291	304	317	343	370	397	424	451	505	530			
8000			232	263	293	324	356	371	387	418	448	479	508	538	597	627			
10000				308	342	377	413	430	446	480	512	545	574	604	663	696			
12000				349	386	423	460	477	495	530	562	594	620	646	699	734			
14000				424	462	500	517	534	568	597	626	645	665	704	739				

* Endurance time will be reduced in [] marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

Timing Belt Selection of Transmission Timing Belts 8

Table 45. Reference Transmission Capacity of P5M Ps -Belt Width 10mm-

(W)

Rotary Speed of Small Pulley (rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle (mm)																		
		12	14	16	18	20	22	24	25	26	28	30	32	34	36	40	42	44	48	56
		19.10	22.28	25.46	28.65	31.83	35.05	38.20	39.79	41.38	44.56	47.75	50.93	54.11	57.30	63.66	66.85	70.03	76.39	89.15
100	100	23	26	31	35	41	46	52	55	58	64	70	76	81	86	103	110	118	133	158
200	200	46	53	63	72	81	92	104	109	115	126	138	151	164	177	205	220	235	267	316
400	400	77	90	106	122	138	155	173	182	192	211	231	251	272	294	337	361	385	434	514
600	600	105	123	144	165	188	211	235	247	259	284	310	337	365	394	452	482	513	577	684
800	800	131	153	179	205	234	262	291	306	322	353	385	417	451	485	556	592	629	706	837
1000	1000	156	182	212	243	276	309	343	361	379	415	453	491	530	570	651	694	738	825	977
1200	1200	179	209	244	280	316	355	394	414	435	476	518	561	605	650	742	790	838	937	1110
1400	1400	201	235	274	319	355	399	443	465	487	532	580	628	677	726	828	880	933	1040	1230
1450	1450	242	282	323	365	409	453	476	499	546	594	643	694	745	850	903	957	1070	1260	
1500	1500	248	288	333	374	420	466	489	512	560	609	659	711	762	869	925	981	1090	1290	
1600	1600	261	303	348	393	441	489	514	538	588	639	691	745	799	910	970	1030	1140	1350	
1750	1750	278	325	372	420	471	522	548	575	628	683	738	795	852	970	1040	1100	1220	1430	
1800	1800	332	380	430	481	532	559	586	640	696	753	810	868	989	1050	1110	1240	1460		
2000	2000	360	412	465	520	576	605	633	691	751	812	874	937	1060	1130	1200	1330	1570		
2400	2400	413	472	532	595	658	691	723	789	857	925	992	1060	1210	1280	1350	1500	2030		
3000	3000			557	628	701	775	812	850	926	1000	1080	1150	1240	1400	1485	1570	1730	2120	
3600	3600			638	719	801	883	925	966	1050	1140	1230	1310	1400	1580	1670	1760	1940	2250	
4000	4000				776	865	953	997	1040	1130	1220	1320	1450	1500	1690	1785	1880	2060	2380	
5000	5000				911	1010	1110	1160	1210	1320	1420	1520	1620	1720	1920	2010	2110	2300	2610	
6000	6000					1140	1260	1310	1370	1480	1580	1690	1790	1900	2100	2190	2290	2460	2720	
8000	8000						1490	1550	1600	1720	1830	1930	2020	2120	2270	2330	2400	2480	2480	
10000	10000							1710	1760	1860	1940	2020	2080	2130	2170	2160	2150	2040		
12000	12000							1770	1810	1880	1910	1940	1920	1900						
14000	14000								1750	1760	1710	1660								

* Endurance time will be reduced in □-□-□ marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

Table 46. Reference Transmission Capacity of P8M Ps -Belt Width 15mm-

(kW)

Rotary Speed of Small Pulley (rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle (mm)																	
		20	22	24	26	28	30	32	34	36	38	40	44	48	50	56	60	64	72
		50.93	56.02	61.12	66.21	71.30	76.39	81.49	86.58	91.67	96.77	101.86	112.05	122.23	127.32	142.06	152.79	162.97	183.35
100	100	0.16	0.17	0.19	0.21	0.23	0.26	0.31	0.41	0.44	0.48	0.51	0.56	0.60	0.63	0.70	0.74	0.78	0.89
200	200	0.32	0.35	0.39	0.42	0.45	0.50	0.59	0.69	0.78	0.85	0.91	0.99	1.07	1.14	1.23	1.35	1.40	1.57
400	400	0.65	0.71	0.77	0.84	0.90	0.95	1.09	1.25	1.37	1.48	1.59	1.72	1.86	1.94	2.16	2.30	2.43	2.71
600	600	0.96	1.06	1.16	1.25	1.35	1.45	1.53	1.70	1.86	2.02	2.17	2.37	2.55	2.66	2.95	3.12	3.30	3.66
800	800	1.29	1.41	1.54	1.67	1.80	1.93	2.06	2.18	2.31	2.51	2.69	3.02	3.16	3.27	3.64	3.83	4.08	4.75
870	870	1.40	1.54	1.68	1.82	1.96	2.10	2.24	2.38	2.51	2.66	2.86	3.16	3.36	3.48	3.90	4.13	4.44	4.98
1000	1000	1.61	1.77	1.93	2.09	2.25	2.41	2.57	2.73	2.89	2.99	3.16	3.64	3.84	4.00	4.47	4.78	5.09	5.71
1160	1160	1.86	2.05	2.24	2.42	2.61	2.79	2.98	3.16	3.35	3.53	3.84	4.08	4.44	4.62	5.17	5.52	6.48	7.28
1200	1200	1.93	2.12	2.31	2.51	2.70	2.89	3.07	3.27	3.46	3.60	3.82	4.22	4.59	4.78	5.34	5.71	6.08	7.52
1400	1400	2.25	2.45	2.70	2.94	3.15	3.37	3.59	3.80	4.03	4.25	4.47	4.90	5.34	5.55	6.20	6.62	7.04	8.68
1450	1450	2.33	2.55	2.79	3.04	3.26	3.65	3.72	3.94	4.17	4.40	4.63	5.07	5.53	5.75	6.41	6.85	7.28	8.96
1500	1500	2.41	2.64	2.89	3.15	3.37	3.72	3.84	4.07	4.31	4.55	4.78	5.25	5.71	5.94	6.62	7.07	7.51	9.25
1600	1600	2.57	2.83	3.07	3.35	3.59	3.84	4.09	4.34	4.59	4.84	5.09	5.59	6.08	6.32	7.04	7.52	7.98	9.81
1750	1750	2.81	3.08	3.36	3.64	3.92	4.20	4.47	4.74	5.01	5.28	5.56	6.09	6.63	6.88	7.68	8.17	8.70	10.6
1800	1800	2.89	3.18	3.72	3.75	4.03	4.31	4.59	4.87	5.15	5.43	5.71	6.26	6.80	7.07	7.86	8.38	8.90	10.9
2000	2000	3.20	3.52	4.01	4.15	4.47	4.78	5.09	5.40	5.71	6.01	6.32	6.93	7.52	7.81	8.68	9.24	9.81	11.9
2400	2400	3.84	4.22	4.59	4.97	5.34	5.71	6.08	6.44	6.80	7.16	7.52	8.22	9.05	9.24	9.86	10.9	11.5	13.8
3000	3000	4.63	5.20	5.62	6.02	6.52	6.81	7.32	7.76	8.22	8.71	9.02	9.84	10.7	11.1	12.2	12.6	12.9	14.6
3600	3600		5.82	6.34	6.75	7.27	7.67	8.17	8.65	9.14	9.72	10.0	10.8	11.7	12.2	13.1	13.9	13.9	15.3
4000	4000			7.06	7.48	8.14	8.46	9.00	9.60	10.0	10.7	11.0	11.7	12.7	13.2	14.0	14.7	14.9	15.8
5000	5000				8.81	9.60	10.2	10.7	11.3	11.7	12.4	12.8	13.6	14.5	14.8	15.7			
6000	6000				10.2	11.2	11.9	12.3	13.0	13.2	14.1	14.5	14.9	15.8	16.0				

* Endurance time will be reduced in □-□-□ marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

* □ The circumferential speed of pulley is 33(m/s) or more; a dynamic balance for the pulley is essential.

Table 47. Reference Transmission Capacity of UP5M Ps -Belt Width 10mm-

(W)

Rotary Speed of Small Pulley (rpm)	No. of Teeth of Small Pulley		Diameter of the Pitch Circle (mm)															
	12	14	16	18	20	22	24	26	28	30	32	36	40	44	48	50	60	72
20	10	12	15	17	19	21	24	26	29	31	34	39	45	51	58	61	78	101
40	19	23	28	32	36	40	45	49	54	59	64	74	85	96	108	114	147	187
60	27	32	39	45	50	56	63	69	76	83	90	104	119	135	152	161	206	267
100	41	50	60	69	78	88	97	107	118	128	139	162	185	210	236	249	321	420
200	76	92	111	128	145	162	180	198	215	237	257	298	342	388	436	460	592	774
400	141	170	206	236	267	299	332	366	401	437	474	550	631	715	804	849	1092	1430
500	172	207	251	287	325	364	405	446	488	532	577	670	769	871	979	1034	1330	1741
600	202	243	295	338	382	428	475	524	574	625	678	788	903	1024	1151	1216	1563	2045
800	260	314	380	436	492	552	613	675	740	806	875	1016	1164	1320	1483	1567	2016	2637
1000	316	382	463	531	600	672	747	822	901	982	1065	1238	1418	1609	1806	1909	2454	3210
1200	376	453	550	630	713	799	887	977	1070	1167	1265	1470	1685	1910	2146	2266	2913	3811
1400	436	526	637	730	826	924	1026	1132	1240	1351	1466	1702	1951	2212	2484	2625	3372	4409
1450	544	658	755	854	957	1061	1171	1283	1397	1516	1670	2017	2288	2569	2714	3488	4559	
1500	561	681	780	883	988	1098	1209	1324	1444	1566	1699	2084	2364	2654	2803	3601	4707	
1600	599	724	831	940	1052	1169	1287	1410	1537	1667	1935	2218	2514	2823	2984	3833	5007	
1750	652	790	907	1025	1147	1275	1405	1539	1677	1817	2111	2420	2743	3080	3254	4178	5455	
1800	813	931	1053	1179	1309	1443	1582	1724	1868	2171	2486	2820	3165	3344	4293	5605		
2000	902	1032	1169	1309	1453	1601	1754	1912	2071	2407	2757	3124	3508	3707	4687	6201		
2400	1068	1222	1386	1552	1720	1897	2077	2262	2453	2849	3261	3695	4146	4378	5485	7293		
3000				1517	1714	1918	2130	2348	2570	2798	3034	3520	4027	4559	5108	5389	6614	8885
3600				1794	2029	2272	2519	2774	3039	3307	3584	4151	4743	5361	5996	6320	7629	10250
4000					2245	2513	2785	3067	3358	3655	3956	4577	5226	5895	6583	6932	8040	11069
4000					2747	3072	3404	3747	4090	4446	4807	5542	6301	7066	7843	8229	9048	
6000					3217	3585	3969	4359	4757	5154	5559	6376	7185	7995	8776	9159		
8000						5002	5455	5908	6361	6795	7264	8366	8993	9465	9619			
10000							6313	6747	7156	7518	8072	8349	8253					
12000							6824	7142	7359	7475	7316							
14000							6848	6882	6730									

* Endurance time will be reduced in □□□□ marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

Table 48. Reference Transmission Capacity of UP8M Ps -Belt Width 15mm-

(kW)

Rotary Speed of Small Pulley (rpm)	No. of Teeth of Small Pulley		Diameter of the Pitch Circle (mm)															
	20	22	24	26	28	30	32	34	36	38	40	44	48	50	56	60	64	72
20	0.11	0.12	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21	0.23	0.25	0.28	0.29	0.33	0.36	0.40	0.46
40	0.19	0.21	0.24	0.26	0.28	0.30	0.33	0.36	0.38	0.40	0.42	0.47	0.52	0.55	0.62	0.67	0.73	0.84
60	0.27	0.31	0.34	0.37	0.40	0.44	0.47	0.50	0.53	0.56	0.60	0.67	0.74	0.77	0.89	0.96	1.04	1.20
100	0.43	0.48	0.52	0.57	0.62	0.67	0.71	0.77	0.82	0.88	0.93	1.03	1.14	1.20	1.38	1.50	1.62	1.87
200	0.76	0.84	0.93	1.01	1.10	1.19	1.28	1.37	1.46	1.57	1.69	1.85	2.06	2.16	2.48	2.70	2.93	3.40
300	1.06	1.17	1.29	1.41	1.54	1.66	1.78	1.92	2.05	2.18	2.29	2.59	2.88	3.03	3.48	3.79	4.11	4.79
400	1.32	1.47	1.62	1.78	1.93	2.09	2.25	2.41	2.59	2.75	2.92	3.28	3.65	3.84	4.41	4.81	5.22	6.08
500	1.57	1.75	1.93	2.12	2.30	2.50	2.69	2.89	3.09	3.30	3.50	3.93	4.37	4.60	5.30	5.78	6.29	7.32
600	1.81	2.01	2.22	2.44	2.65	2.88	3.10	3.33	3.57	3.80	4.05	4.54	5.06	5.32	6.14	6.71	7.29	8.51
700	2.04	2.26	2.50	2.75	2.99	3.24	3.50	3.75	4.02	4.29	4.57	5.13	5.72	6.02	6.95	7.59	8.26	9.65
800	2.25	2.51	2.77	3.04	3.31	3.59	3.87	4.17	4.46	4.76	5.07	5.70	6.35	6.69	7.73	8.45	9.20	10.75
900	2.46	2.74	3.03	3.32	3.61	3.92	4.24	4.55	4.88	5.21	5.55	6.25	6.97	7.34	8.48	9.29	10.11	11.83
1000	2.66	2.96	3.28	3.58	3.91	4.24	4.58	4.93	5.28	5.64	6.02	6.78	7.56	7.96	9.22	10.08	10.99	12.88
1100	2.86	3.19	3.52	3.87	4.23	4.59	4.95	5.33	5.71	6.10	6.51	7.32	8.18	8.62	9.99	10.93	11.91	13.97
1200	3.06	3.42	3.78	4.15	4.53	4.92	5.31	5.72	6.13	6.55	6.98	7.87	8.79	9.26	10.74	11.76	12.83	15.05
1300	3.26	3.64	4.02	4.42	4.82	5.24	5.67	6.10	6.54	6.99	7.45	8.40	9.40	9.90	11.49	12.59	13.73	16.11
1400	3.46	3.86	4.27	4.69	5.12	5.57	6.01	6.47	6.95	7.43	7.92	8.94	9.99	10.53	12.23	13.40	14.62	17.17
1450	3.55	3.96	4.39	4.82	5.26	5.72	6.18	6.66	7.15	7.64	8.15	9.20	10.28	10.84	12.59	13.80	15.06	17.69
1500	3.65	4.07	4.51	4.95	5.41	5.87	6.35	6.85	7.35	7.85	8.38	9.46	10.58	11.15	12.95	14.20	15.50	18.22
1600	3.83	4.27	4.73	5.21	5.69	6.18	6.69	7.21	7.74	8.28	8.84	9.98	11.16	11.77	13.68	15.00	16.37	19.26
1750	4.11	4.59	5.08	5.59	6.12	6.64	7.19	7.75	8.32	8.91	9.50	10.74	12.03	12.69	14.75	16.19	17.68	20.81
1800	4.19	4.69	5.20	5.71	6.25	6.79	7.35	7.92	8.52	9.11	9.72	11.00	12.31	12.99	15.10	16.58	18.11	21.32
2000	4.56	5.09	5.65	6.21	6.79	7.39	8.00	8.63	9.28	9.93	10.61	11.99	13.44	14.18	16.51	18.14	19.82	23.37
2400	5.25	5.87	6.51	7.17	7.85	8.54	9.27	10.00	10.75	11.52	12.31	13.95	15.65	16.53	19.27	21.20	23.18	27.38
2800	5.91	6.61	7.34	8.09	8.87	9.66	10.48	11.32	12.18	13.06	13.97	15.84	17.81	18.81	21.97	24.19	26.49	31.35
3000	6.22	6.97	7.75	8.54	9.37	10.21	11.09	11.97	12.89	13.82	14.79	16.78	18.87	19.94	23.31	25.68	28.13	33.30
3600	6.93	7.79	8.66	9.56	10.49	11.45	12.44	13.46	14.50	15.57	16.66	18.94	21.33	22.56	26.44	29.15	31.97	37.94
4000	7.36	8.29	9.20	10.18	11.18	12.20	13.27	14.36	15.48	16.63	17.81	20.27	22.85	24.18	28.37	31.30	34.36	40.81
5000	8.29	9.34	10.41	11.52	12.68	13.87	15.10	16.38	17.68	19.02	20.40	23.26	26.29	27.84	32.75	36.20		
6000	9.05	9.05	11.41	12.65	13.95	15.28	16.66	18.08	19.55	21.06	22.61	25.85	29.24	31.02	36.56	40.46		

* Endurance time will be reduced in □□□□ marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

* □□□□ The circumferential speed of pulley is 33(m/s)or more; a dynamic balance for the pulley is essential.

Timing Belt Selection of Transmission Timing Belts 9

Table 49. Reference Transmission Capacity of T5 Ps -Belt Width 10mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)		12	14	16	18	20	22	24	28	30
		19.10	22.28	25.46	28.65	31.83	35.01	38.20	44.56	47.75		
1160	870	98.5	114.9	131.3	147.7	164.1	180.5	196.9	229.7	246.1		
1750	1160	134.3	156.7	179.1	201.5	223.9	246.3	268.7	313.5	335.9		
3500	1750	222.5	259.6	296.7	333.7	370.8	407.9	445.0	519.1	556.2		
100	100	10.7	12.4	14.2	16.0	17.8	19.5	21.3	24.9	26.6		
200	200	20.8	24.3	27.7	31.2	34.7	38.2	41.6	48.6	52.0		
300	300	30.5	35.6	40.7	45.7	50.8	55.9	61.0	71.2	76.2		
400	400	39.7	46.4	53.0	59.6	66.2	72.9	79.5	92.7	99.4		
500	500	48.6	56.7	64.8	72.9	81.0	89.1	97.2	113.4	121.5		
600	600	57.0	66.5	76.0	85.6	95.1	104.6	114.1	133.1	142.6		
700	700	65.1	76.0	86.8	97.7	108.6	119.4	130.3	152.0	162.8		
800	800	72.9	85.0	97.2	109.3	121.5	133.6	145.8	170.1	182.2		
900	900	80.3	93.7	107.1	120.5	133.9	147.3	160.7	187.5	200.9		
1000	1000	87.5	102.1	116.7	131.3	145.9	160.5	175.0	204.2	218.8		
1100	1100	94.4	110.2	125.9	141.6	157.4	173.1	188.9	220.3	236.1		
1200	1200	101.1	117.9	134.8	151.6	168.5	185.3	202.2	235.9	252.7		
1300	1300	107.5	125.5	143.4	161.3	179.2	197.2	215.1	250.9	268.9		
1400	1400	113.8	132.8	151.7	170.7	189.7	208.6	227.6	265.5	284.5		
1500	1500	119.9	139.8	159.8	179.8	200.0	219.2	239.7	279.7	299.7		
1600	1600	125.8	146.7	167.7	188.6	209.6	230.6	251.5	293.4	314.4		
1700	1700	131.5	153.4	175.4	197.3	219.2	241.1	263.0	306.9	328.8		
1800	1800	137.1	160.0	182.9	205.7	228.6	251.4	274.3	320.0	342.8		
1900	1900	142.6	166.4	190.2	214.0	237.7	261.5	285.3	332.8	356.6		
2000	2000	148.0	172.7	197.4	222.0	246.7	271.4	296.1	345.4	370.1		
2200	2200	158.6	185.0	211.4	237.8	264.3	290.7	317.8	370.0	396.4		
2400	2400	168.9	196.9	225.1	253.2	281.4	309.5	337.6	393.9	422.0		
2600	2600	178.8	208.7	238.5	268.3	298.1	327.9	357.7	417.3	447.1		
2800	2800	188.7	220.2	251.6	283.1	314.5	346.0	377.4	440.4	471.8		
3000	3000	198.5	231.6	264.6	297.7	330.8	363.9	397.0	463.1	496.2		
3200	3200	208.2	242.8	277.5	312.2	346.9	381.6	416.3	485.7	520.4		
3400	3400	217.7	254.0	290.3	326.6	362.9	399.2	435.5	508.0	544.3		
3600	3600	227.2	265.1	303.0	340.8	378.7	416.6	454.4	530.2	568.1		
3800	3800	236.6	276.0	315.5	354.9	394.3	433.8	473.2	552.1	591.5		
4000	4000	245.8	286.8	327.7	368.7	409.7	450.7	491.6	573.6	614.5		
4200	4200	254.8	297.3	339.7	382.2	424.7	467.2	509.6	594.6	637.0		
4400	4400	263.5	307.4	351.4	395.3	439.2	483.1	527.1	614.9	658.8		
4600	4600	271.9	317.2	362.5	407.8	453.1	498.4	543.7	634.4	679.7		
4800	4800	279.7	326.4	373.0	419.6	466.2	512.8	559.5	652.7	699.3		
5000	5000	287.0	334.8	382.7	430.5	478.3	526.2	574.0	669.7	717.5		
5500	5500			402.2	452.4	502.7	553.0	603.2	703.8	754.1		
6000	6000			412.1	463.5	515.1	566.6	618.1	721.1	772.6		
6500	6500			408.2	459.2	510.2	561.2	612.2	714.3	765.3		
7000	7000			385.3	433.5	481.7	529.8	578.0	674.3	722.5		
7500	7500			337.7	379.9	422.1	464.3	506.6	591.0	633.2		
8000	8000				290.8	323.1	355.5	387.8	452.4	484.7		
8500	8500				157.7	175.3	192.8	210.3	245.4	262.9		

* Endurance time will be reduced in □ □ □ marked area. Please avoid if possible.

* The above table shows values for the nominal width 10 (10mm). Multiply a value in the table by correction coefficient Kb in the table 29 for other widths.

Table 50. Reference Transmission Capacity of T10 Ps - Belt Width 10mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)		12	14	16	18	20	22	24	26	28	30	32	36	40	44	48	
		38.20	44.56	50.93	57.30	63.66	70.03	76.39	82.76	89.12	95.49	101.86	114.59	127.32	140.06	152.79			
870	870	254.9	297.4	339.9	382.4	424.9	467.4	509.9	552.4	594.9	637.4	679.9	722.4	764.9	807.4	849.9	892.4	934.9	977.4
1160	1160	321.2	374.8	428.3	481.8	535.4	588.9	642.4	696.0	749.5	803.0	856.5	910.0	963.5	1017.0	1070.5	1124.0	1177.5	1231.0
1750	1750	438.3	511.3	584.4	657.4	730.5	803.5	876.6	949.6	1022.7	1095.7	1168.8	1241.8	1314.9	1387.9	1461.0	1534.0	1607.0	1680.0
3500	3500	725.8	846.8	967.8	1088.7	1209.7	1330.6	1451.6	1572.5	1693.5	1814.4	1935.3	2056.2	2177.1	2298.0	2418.9	2539.8	2660.7	2781.6
100	100	34.8	40.6	46.4	52.1	57.9	63.7	69.5	75.3	81.1	86.9	92.7	98.5	104.3	110.1	115.9	121.7	127.5	133.3
200	200	67.9	79.2	90.5	101.9	113.2	124.5	135.8	147.1	158.4	169.7	181.0	192.3	203.6	214.9	226.2	237.5	248.8	260.1
300	300	99.5	116.1	132.7	149.3	165.8	182.4	199.0	215.6	232.2	248.8	265.3	281.9	298.5	315.1	331.7	348.3	364.9	381.5
400	400	129.7	151.3	172.9	194.5	216.1	237.7	259.4	281.0	302.6	324.2	345.8	367.4	389.0	410.6	432.2	453.8	475.4	497.0
500	500	158.5	184.9	211.3	237.8	264.2	290.6	317.0	343.4	369.8	396.2	422.6	449.0	475.4	501.8	528.2	554.6	581.0	607.4
600	600	186.1	217.1	248.1	279.1	310.1	341.1	372.2	403.2	434.2	465.2	496.2	527.2	558.2	589.2	620.2	651.2	682.2	713.2
700	700	212.5	247.9	283.3	318.7	354.2	389.6	425.0	460.4	495.8	531.2	566.6	602.0	637.4	672.8	708.2	743.6	779.0	814.4
800	800	237.8	277.5	317.1	356.7	396.4	436.0	475.6	515.3	554.9	594.5	634.2	673.8	713.4	753.0	792.6	832.2	871.8	911.4
900	900	262.1	305.8	349.5	393.2	436.9	480.6	524.3	568.0	611.7	655.4	699.1	742.8	786.4	830.1	873.7	917.4	961.0	1004.7
1000	1000	285.5	333.1	380.7	428.3	475.9	523.5	571.1	618.7	666.2	713.8	761.4	809.0	856.6	904.2	951.8	1000.0	1048.2	1096.4
1100	1100	308.1	359.4	410.8	462.1	513.5	564.8	616.2	667.5	718.8	770.2	821.5	872.9	924.2	975.6	1027.0	1078.4	1129.8	1181.2
1200	1200	329.8	384.8	439.8	494.7	549.6	604.5	659.4	714.3	769.2	824.1	879.0	933.9	988.8	1043.7	1098.6	1153.5	1208.4	1263.3
1300	1300	350.9	409.4	467.8	526.3	584.8	643.3	701.8	760.3	818.8	877.3	935.7	994.2	1052.6	1111.1	1169.6	1228.1	1286.6	1345.1
1400	1400	371.3	433.1	495.0	556.9	618.8	680.7	742.5	804.4	866.3	928.1	989.9	1051.8	1113.7	1175.6	1237.5	1299.4	1361.3	1423.2
1500	1500	391.0	456.2	521.4	586.6	651.9	717.3	782.7	848.1	913.5	978.9	1044.3	1109.7	1175.1	1240.5	1305.9	1371.3	1436.7	1502.1
1600	1600	410.3	478.7	547.1	615.4	683.8	752.1	820.5	888.9	957.2	1025.6	1093.9	1162.3	1230.7	1299.1	1367.5	1435.9	1504.3	1572.7
1700	1700	429.1	500.6	572.1	643.6	715.1	786.6	858.1	929.6	1001.1	1072.6	1144.1	1215.6	1287.1	1358.6	1430.1	1501.6	1573.1	1644.6
1800	1800	447.4	522.0	596.5	671.1	745.7	820.2	894.8	969.4	1043.9	1118.5	1193.1	1267.7	1342.3	1416.9	1491.5	1566.1	1640.7	1715.3
1900	1900	465.4	542.9	620.5	698.0	775.6	853.1	930.7	1008.3	1085.9	1163.5	1241.1	1318.7	1396.3	1473.9	1551.5	1629.1	1706.7	1784.3
2000	2000	483.0	563.5	643.9	724.4	804.9	885.4	965.9	1046.4	1126.9	1207.4	1287.9	1368.4	1448.9	1529.4	1609.9	1690.4	1770.9	1851.4
2200	2200	517.3	603.5	689.7	776.0	862.2	948.4	1034.6	1120.8	1207.0	1293.2	1379.4	1465.6	1551.8	1638.0	1724.2	1810.4	1896.6	1982.8
2400	2400	550.7	642.5	734.3	826.1	917.9	1009.7	1101.4	1193.2	1285.0	1376.8	1468.6	1560.4	1652.2	1744.0	1835.8	1927.6	2019.4	2111.2
2600	2600	583.5	680.7	777.9	875.2	972.4	1069.7	1166.9	1264.1	1361.4	1458.6	1555.9	1653.2	1750.5	1847.8	1945.1	2042.4	2139.7	2237.0
2800	2800	615.7	718.3	820.9	923.5	1026.1	1128.7	1231.3	1333.9	1436.5	1539.1	1641.7	1744.3	1846.9	1949.5	2052.1	2154.7	2257.3	2359.9
3000	3000	755.4	863.4	971.3	1079.2	1187.1	1295.0	1402.9	1510.8	1618.7	1726.6	1834.5	1942.4	2050.3	2158.2	2266.1	2374.0	2481.9	2589.8
3200	3200																		

Table 51. Reference Transmission Capacity of 2GT Ps -Belt Width 4mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)																	
		12	14	16	18	20	22	24	26	28	30	32	36	40	44	48	50	60	72
		7.64	8.91	10.19	11.46	12.73	14.01	15.28	16.55	17.83	19.10	20.37	22.92	25.46	28.01	30.56	31.83	38.20	45.84
20	20	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.7	1.9	2.2	2.5	2.6	3.4	4.0
40	40	0.8	1.0	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.4	2.7	3.1	3.6	4.1	4.6	4.9	6.3	7.6
60	60	1.1	1.4	1.6	1.8	2.1	2.3	2.6	2.9	3.2	3.5	3.8	4.4	5.1	5.8	6.6	7.0	9.1	10.9
100	100	1.7	2.1	2.4	2.8	3.2	3.6	4.0	4.5	4.9	5.4	5.9	6.9	8.0	9.1	10.3	11.0	14.3	17.2
200	200	3.0	3.6	4.3	5.0	5.7	6.4	7.2	8.0	8.8	9.7	10.6	12.5	14.5	16.6	18.9	20.1	26.4	31.7
300	300	4.2	5.0	5.9	6.9	7.9	8.9	10.0	11.1	12.3	13.6	14.9	17.6	20.4	23.5	26.8	28.5	37.7	45.3
400	400	5.2	6.3	7.4	8.6	9.9	11.2	12.6	14.1	15.6	17.2	18.8	22.3	26.0	30.0	34.3	36.5	48.5	58.2
500	500	6.1	7.4	8.8	10.2	11.8	13.4	15.1	16.8	18.7	20.6	22.6	26.8	31.4	36.2	41.4	44.1	58.8	70.6
600	600	7.0	8.5	10.1	11.8	13.5	15.4	17.4	19.4	21.6	23.8	26.2	31.2	36.5	42.2	48.3	51.5	68.9	82.6
700	700	7.8	9.5	11.3	13.2	15.2	17.4	19.6	21.9	24.4	27.0	29.6	35.3	41.4	48.0	55.0	58.7	78.6	94.4
800	800	8.6	10.5	12.5	14.6	16.8	19.2	21.7	24.3	27.1	30.0	33.0	39.4	46.2	53.6	61.5	65.6	88.2	105.8
870	870	9.1	11.1	13.3	15.5	17.9	20.5	23.2	26.0	28.9	32.0	35.2	42.1	49.5	57.5	66.0	70.4	94.7	113.7
900	900	9.3	11.4	13.6	15.9	18.4	21.0	23.8	26.7	29.7	32.9	36.2	43.3	50.9	59.1	67.9	72.4	97.5	117.0
1000	1000	10.0	12.3	14.6	17.2	19.9	22.7	25.7	28.9	32.2	35.7	39.3	47.1	55.4	64.1	74.1	79.1	106.7	128.0
1160	1160	11.1	13.6	16.3	19.1	22.1	25.4	28.8	32.3	36.1	40.0	44.2	53.0	62.5	72.7	83.7	89.5	121.0	145.2
1200	1200	11.4	13.9	16.6	19.6	22.7	26.0	29.5	33.2	37.0	41.1	45.3	54.4	64.2	74.8	86.1	92.0	124.6	149.5
1400	1400	12.6	15.4	18.5	21.8	25.3	29.1	33.0	37.2	41.6	46.2	51.1	61.4	72.6	84.7	97.7	104.5	141.9	170.3
1450	1450	12.9	15.8	19.0	22.4	26.0	29.8	33.9	38.2	42.7	47.5	52.5	63.1	74.7	87.2	100.6	107.6	146.2	175.4
1600	1600	13.7	16.8	20.3	23.9	27.8	32.0	36.4	41.1	46.0	51.2	56.6	68.2	80.8	94.4	109.0	116.6	158.8	190.6
1750	1750	14.5	17.8	21.5	25.4	29.6	34.1	38.8	43.8	49.1	54.7	60.6	73.1	86.7	101.4	117.2	125.5	171.2	205.4
1800	1800	14.7	18.2	21.9	25.9	30.2	34.8	39.6	44.7	50.2	55.9	61.9	74.7	88.6	103.7	119.9	128.4	175.3	210.3
2000	2000	15.7	19.4	23.4	27.8	32.4	37.4	42.7	48.3	54.2	60.4	66.9	81.0	96.2	112.8	130.5	139.9	191.4	229.7
2400	2400	17.4	21.7	26.3	31.2	36.6	42.3	48.4	54.9	61.8	69.0	76.6	93.0	110.9	130.2	151.1	162.2	228.8	267.3
2800	2800	19.0	23.7	28.8	34.4	40.4	46.9	53.8	61.1	68.9	77.1	85.8	104.4	124.8	146.9	170.8	183.4	253.1	303.7
3200	3200	20.3	25.5	31.1	37.3	43.9	51.1	58.8	66.9	75.6	84.7	94.4	115.2	138.1	162.9	189.8	204.0	282.4	338.9
3600	3600	21.5	27.1	33.2	39.9	47.2	55.0	63.4	72.4	81.9	92.0	102.6	125.6	150.9	178.4	208.2	223.9	311.0	373.2
4000	4000	22.6	28.6	35.1	42.4	50.2	58.7	67.8	77.5	87.9	98.9	110.5	135.6	163.2	193.3	225.9	243.2	338.9	406.7
5000	5000	24.7	31.6	39.2	47.7	56.9	66.9	77.7	89.2	101.6	114.7	128.7	158.9	192.2	228.7	268.3	289.3	406.0	487.2
6000	6000	26.2	33.8	42.4	52.0	62.5	73.9	86.3	99.6	113.8	129.0	145.1	180.2	219.1	261.7	308.1	332.7	469.8	563.8
7000	7000	27.1	35.5	45.0	55.5	67.2	79.9	93.8	108.8	124.8	142.0	160.2	200.0	244.2	292.8	345.8	373.9	531.0	637.3
8000	8000	27.6	36.6	46.9	58.4	71.1	85.2	100.4	117.0	134.7	153.8	174.1	218.4	267.8	322.2	381.6	413.2	590.0	708.0
10000	10000	27.5	37.5	49.2	62.4	77.1	93.5	111.4	130.9	151.9	174.6	198.7	251.8	311.2	376.8	448.7	487.0	702.1	842.6
12000	12000	26.0	36.9	49.8	64.4	81.0	99.5	119.8	142.0	166.1	192.1	220.0	281.4	350.3	426.8	510.7	555.6	807.9	969.5
14000	14000	23.5	35.1	48.9	64.9	83.1	103.5	126.1	150.9	177.9	207.1	238.4	307.8	385.9	472.8	568.5	619.7	908.3	1090.0

* Endurance time will be reduced in [] marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

Table 52. Reference Transmission Capacity of 3GT Ps -Belt Width 6mm-

(W)

Rotary Speed of Small Pulley(rpm)	No. of Teeth of Small Pulley	Diameter of the Pitch Circle(mm)																	
		12	14	16	18	20	22	24	26	28	30	32	36	40	48	54	60	72	80
		11.46	13.37	15.28	17.19	19.10	21.01	22.92	24.83	26.74	28.65	30.56	34.38	38.20	45.84	51.57	57.30	68.75	76.39
20	20	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	5.9	6.4	6.9	7.8	8.7	10.5	11.8	13.1	15.7	17.4
40	40	3.6	4.5	5.5	6.4	7.3	8.2	9.1	10.0	10.9	11.8	12.6	14.3	16.0	19.3	21.7	24.2	28.9	32.0
60	60	5.0	6.4	7.7	9.0	10.3	11.6	12.9	14.2	15.4	16.7	17.9	20.4	22.8	27.5	30.9	34.4	41.1	45.5
100	100	7.6	9.7	11.8	13.9	15.9	18.0	19.9	21.9	23.9	25.9	27.8	31.6	35.3	42.6	48.0	53.4	63.8	70.6
200	200	13.1	16.9	20.8	24.6	28.2	32.0	35.6	39.2	42.8	46.4	49.9	58.8	63.6	76.8	86.5	96.1	114.8	127.0
300	300	17.7	23.2	28.7	34.1	39.2	44.6	49.6	54.8	59.9	65.0	69.8	79.6	89.2	107.7	121.4	134.8	161.0	178.1
400	400	21.9	28.9	35.9	42.8	49.4	56.3	62.7	69.3	75.7	82.2	88.4	100.9	113.0	136.5	153.9	171.0	204.1	225.7
500	500	25.6	34.2	42.6	51.0	58.9	67.2	74.9	82.9	90.6	98.5	105.9	121.0	135.6	163.8	184.7	205.1	244.8	270.7
600	600	29.1	39.0	48.9	58.7	67.8	77.5	86.5	95.8	104.8	114.0	122.6	140.1	157.1	189.8	214.0	237.7	283.7	313.5
700	700	32.2	43.6	54.8	66.0	76.4	87.4	97.6	108.2	118.4	128.9	138.6	158.5	177.8	214.8	242.2	269.1	321.0	354.7
800	800	35.2	47.9	60.4	72.9	84.6	96.9	108.3	120.1	131.5	143.2	154.1	176.2	197.7	239.0	269.4	299.3	357.0	394.3
870	870	37.2	50.8	64.2	77.6	90.1	103.3	115.5	128.2	140.4	152.9	164.6	188.3	211.3	255.4	288.0	319.8	381.4	421.3
900	900	38.0	52.0	65.8	79.6	92.4	106.0	118.6	131.6	144.2	157.0	169.0	193.3	217.0	262.3	295.8	328.5	391.7	432.6
1000	1000	40.6	55.9	71.0	86.0	100.0	114.9	128.5	142.7	156.4	170.4	183.4	210.0	235.7	285.0	321.3	356.8	425.4	469.8
1160	1160	44.4	61.8	78.8	95.8	111.6	128.4	143.8	159.9	175.2	191.1	205.7	235.6	264.5	319.9	360.7	400.6	477.4	527.0
1200	1200	45.4	63.2	80.7	98.2	114.4	131.7	147.5	164.0	179.8	196.1	211.1	241.9	271.6	328.4	370.3	411.2	490.0	540.9
1400	1400	49.6	69.9	89.7	109.6	128.0	147.5	165.5	184.2	202.1	220.5	237.5	272.2	305.7	369.8	416.9	462.9	551.4	608.3
1450	1450	50.6	71.5	91.9	112.3	131.2	151.4	169.8	189.0	207.4	226.4	243.9	279.5	314.0	379.8	428.3	475.5	566.2	624.6
1600	1600	53.4	76.0	98.2	120.3	140.8	162.6	182.5	203.3	223.2	243.7	262.6	301.1	338.4	409.3	461.5	512.3	609.8	672.5
1750	1750	56.0	80.4	104.2	128.0	149.9	173.4	194.8	217.2	238.5	260.5	280.8	328.2	362.0	437.9	493.0	548.0	652.0	718.7
1800	1800	56.8	81.7	106.1	130.5	152.9	176.9	198.8	221.7	243.5	266.0	286.7	328.9	369.7	447.2	504.2	559.6	665.7	733.7
2000	2000	59.9	87.1	113.6	140.1	164.5	190.6	214.4	239.3	263.0	287.4	309.8	355.7	399.8	483.7	545.3	605.1	719.3	792.3
2400	2400	65.2	96.6	127.3	158.1	186.2	216.4	243.8	272.4	299.7	327.9	353.7	406.3	456.9	552.8	622.9	690.9	820.1	902.2
2800	2800	72.9	105.0	139.7	174.4	206.1	240.2	271.0	303.3	334.0	365.8	394.6	453.7	510.4	617.2	695.3	770.7	913.1	1003.1
3200	3200	80.8	112.3	150.9	189.4	224.5	262.4	296.4	332.2	366.0	401.3	433.1	498.2	560.6	677.7	763.0	845.1	999.1	1095.6
3600	3600	88.4	118.7	161.0	203.2	241.6	283.1	320.3											

Timing Belt Selection of Transmission Timing Belts 10

Table 53. Reference Transmission Capacity of EV5GT Ps -Belt Width 15mm-

(W)

Rotary Speed of Small Pulley (rpm)	No. of Teeth of Small Pulley		Diameter of the Pitch Circle (mm)															
	14	16	18	20	22	24	26	28	30	32	36	40	44	48	54	60	72	80
	22.28	25.46	28.65	31.83	35.01	38.20	41.38	44.56	47.75	50.93	57.30	63.66	70.03	76.39	85.94	95.49	114.59	127.32
20	13	18	22	27	33	38	42	47	52	56	64	72	80	87	97	108	128	139
40	24	33	41	50	61	70	79	88	96	104	120	136	150	163	183	203	240	263
60	33	46	58	72	87	100	113	126	139	150	173	196	216	236	264	293	348	380
100	50	71	91	113	136	157	178	199	219	237	273	310	343	374	419	465	552	604
200	85	125	163	205	248	287	326	365	403	438	506	575	636	695	780	867	1031	1129
300	115	173	228	289	350	407	464	520	574	625	723	823	912	996	1119	1244	1482	1623
400	142	217	289	369	447	520	594	667	737	803	931	1060	1176	1285	1445	1607	1914	2096
500	166	258	347	445	539	629	718	808	894	974	1131	1289	1430	1564	1759	1957	2333	2555
600	188	297	402	518	627	733	839	944	1046	1141	1325	1511	1678	1836	2065	2298	2740	3002
700	208	333	454	589	712	834	956	1077	1193	1302	1514	1728	1919	2101	2364	2632	3139	3439
800	227	368	505	657	795	933	1069	1206	1337	1460	1699	1940	2156	2360	2657	2958	3529	3866
870	239	392	540	704	851	1000	1147	1294	1436	1569	1826	2086	2319	2539	2858	3183	3797	4161
900	244	402	554	724	875	1028	1180	1332	1478	1615	1880	2148	2388	2615	2944	3279	3912	4286
1000	260	434	602	789	954	1122	1289	1456	1616	1767	2058	2352	2616	2865	3227	3593	4288	4698
1160	284	483	675	890	1075	1268	1459	1649	1832	2004	2337	2672	2973	3257	3669	4087	4878	5343
1200	289	495	693	915	1105	1304	1500	1696	1885	2062	2405	2751	3061	3353	3778	4209	5023	5502
1400	315	551	780	1035	1251	1478	1704	1929	2145	2349	2742	3138	3493	3828	4314	4807	5736	6282
1450	321	565	801	1065	1286	1521	1754	1986	2209	2419	2825	3233	3599	3945	4446	4954	5912	6474
1600	338	605	863	1152	1391	1647	1901	2155	2397	2627	3070	3516	3914	4291	4837	5390	6430	7040
1750	354	643	923	1237	1494	1771	2046	2320	2583	2831	3311	3793	4224	4631	5221	5817	6939	7595
1800	358	655	943	1264	1527	1811	2093	2374	2644	2899	3390	3884	4326	4743	5347	5958	7106	7777
2000	376	703	1020	1374	1659	1971	2280	2589	2884	3164	3703	4244	4728	5185	5846	6513	7765	8494
2400	406	791	1165	1584	1911	2278	2641	3003	3349	3678	4309	4943	5509	6042	6812	7587	9034	9868
2800	440	872	1301	1783	2151	2571	2986	3400	3795	4171	4892	5615	6259	6865	7737	8613	10238	11165
3200	486	945	1429	1973	2380	2851	3318	3782	4225	4647	5455	6263	6982	7657	8625	9594	11379	12384
3600	529	1011	1550	2155	2598	3120	3636	4150	4640	5107	5998	6888	7679	8419	9477	10531	12456	13522
4000	571	1072	1665	2330	2808	3379	3944	4505	5041	5550	6522	7492	8350	9151	10291	11423	13466	14575
5000	667	1202	1925	2738	3296	3986	4667	5343	5985	6597	7758	8910	9920	10854	12167	13450	15686	16815
6000	700	1305	2153	3108	3737	4539	5330	6112	6853	7559	8889	10199	11335	12372	13803	15172	17429	18431
7000	740	1382	2352	3445	4136	5044	5936	6817	7648	8438	9915	11358	12590	13695	15183	16561	18641	19343
8000	780	1460	2524	3749	4495	5501	6487	7459	8370	9235	10835	12383	13677	14812	16285	17586	19259	
9000	820	1540	2671	4023	4815	5912	6984	8037	9018	9946	11645	13265	14586	15706	17086	18212		
10000	860	1620		4266	5096	6277	7426	8550	9591	10570	12339	13998	15303	16361	17560			
12000	920	1720		4660	5541	6865	8141	9375	10498	11541	13356	14976	16113	16883				
14000	980	1820		4930	5825	7256	8617	9915	11067	12113	13831	15238						

* Endurance time will be reduced in □□□ marked area. Please avoid if possible. If the belt width changes, multiply the compensation factors Kb from Table 29.

Table 54. Reference Transmission Capacity of EV8YU Ps -Belt Width 20mm-

(kW)

Rotary Speed of Small Pulley (rpm)	No. of Teeth of Small Pulley		Diameter of the Pitch Circle (mm)															
	20	22	24	26	28	30	32	34	36	38	40	44	48	54	60	64	72	80
	50.93	56.02	61.12	66.21	71.30	76.39	81.49	86.58	91.67	96.77	101.86	112.05	122.23	137.51	152.79	162.97	183.35	203.72
10	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.12	0.13	0.14	0.16	0.18
20	0.07	0.08	0.09	0.10	0.10	0.11	0.13	0.13	0.14	0.15	0.16	0.18	0.20	0.23	0.26	0.28	0.32	0.36
40	0.13	0.14	0.16	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.32	0.36	0.40	0.46	0.52	0.56	0.64	0.72
60	0.18	0.21	0.23	0.26	0.29	0.32	0.35	0.38	0.41	0.44	0.48	0.54	0.60	0.69	0.78	0.84	0.96	1.08
100	0.28	0.33	0.37	0.42	0.47	0.52	0.57	0.62	0.67	0.72	0.78	0.88	0.99	1.14	1.30	1.40	1.60	1.80
200	0.52	0.60	0.69	0.79	0.89	0.99	1.10	1.20	1.29	1.39	1.52	1.73	1.96	2.27	2.58	2.79	3.19	3.60
300	0.74	0.86	0.99	1.13	1.29	1.45	1.62	1.76	1.90	2.05	2.25	2.57	2.92	3.38	3.85	4.18	4.78	5.40
400	0.94	1.10	1.28	1.47	1.67	1.89	2.12	2.30	2.50	2.70	2.97	3.40	3.86	4.48	5.12	5.56	6.37	7.20
500	1.13	1.34	1.56	1.80	2.05	2.32	2.61	2.84	3.08	3.33	3.68	4.23	4.81	5.59	6.38	6.94	7.95	8.99
600	1.32	1.57	1.83	2.12	2.42	2.75	3.10	3.38	3.67	3.97	4.38	5.04	5.75	6.68	7.64	8.31	9.53	10.78
700	1.50	1.79	2.10	2.43	2.79	3.17	3.58	3.90	4.24	4.59	5.08	5.86	6.68	7.77	8.89	9.68	11.10	12.57
800	1.68	2.00	2.36	2.74	3.15	3.59	4.05	4.43	4.81	5.22	5.78	6.66	7.61	8.86	10.14	11.04	12.67	14.34
870	1.80	2.15	2.54	2.95	3.40	3.87	4.38	4.79	5.21	5.65	6.26	7.23	8.26	9.62	11.01	11.99	13.76	15.58
900	1.85	2.21	2.61	3.04	3.50	4.00	4.52	4.94	5.38	5.83	6.47	7.47	8.54	9.95	11.39	12.40	14.23	16.11
1000	2.02	2.42	2.86	3.34	3.85	4.40	4.99	5.46	5.94	6.45	7.15	8.27	9.46	11.03	12.63	13.75	15.78	17.88
1160	2.28	2.74	3.26	3.81	4.41	5.05	5.73	6.27	6.83	7.42	8.24	9.54	10.92	12.75	14.60	15.91	18.26	20.68
1200	2.34	2.82	3.35	3.92	4.54	5.20	5.91	6.47	7.06	7.66	8.51	9.86	11.29	13.17	15.09	16.45	18.87	21.37
1400	2.65	3.21	3.83	4.50	5.22	5.99	6.82	7.48	8.16	8.86	9.86	11.43	13.11	15.30	17.54	19.11	21.93	24.83
1450	2.73	3.31	3.94	4.64	5.39	6.19	7.05	7.72	8.43	9.16	10.20	11.82	13.56	15.83	18.15	19.78	22.69	25.68
1600	2.95	3.59	4.29	5.06	5.88	6.77	7.72	8.47	9.24	10.05	11.20	12.99	14.91	17.41	19.96	21.75	24.95	28.23
1750	3.17	3.87	4.63	5.47	6.37	7.34	8.39	9.20	10.05	10.93	12.19	14.15	16.25	18.98	21.75	23.71	27.18	30.75
1800	3.24	3.96	4.75	5.61	6.53	7.53	8.61	9.44	10.31	11.22	12.52	14.54	16.69	19.50	22.35	24.36	27.93	31.58
2000	3.52	4.32	5.19	6.14	7.17	8.29	9.48	10.41	11.37	12.3								

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Table 55. Allowable Tension Table/List

Belt Type	Allowable Tension (N)	Belt Width / Correction Factor						
MXL	23.4	-	4.8	6.4	9.5	12.7		
		-	0.72	1.00	1.57	2.18		
XL	182.4	6.4	7.9	9.5	12.7	-		
		0.15	0.21	0.28	0.42	-		
L	244.2	12.7	19.1	25.4	38.1			
		0.42	0.71	1.00	1.56			
H	622.7	19.1	25.4	38.1	50.8	-		
		0.71	1.00	1.56	2.14	-		
T5	See P.138.	-	10	15	20			
		-	1.00	1.60	2.30			
T10	See P.138.	-	15	20	25	30	40	50
		-	1.60	2.30	2.90	3.50	4.60	5.80
		4	6	10				
S2M	See P.136.	1.00	1.59	2.84				
		6	10	15				
S3M	See P.137.	1.00	1.79	2.84				
		10	15	25				
S5M	See P.137.	1.00	1.59	2.84				
		15	-	25	30	40	-	-
S8M	2736.0	0.21	-	0.37	0.45	0.63	-	-
		-	40	-	60	-	-	-
S14M	8483.0	-	0.29	-	0.45	-	-	-
		-	-	-	-	-	-	-

Table 56. S2M Allowable Tension Table: Per 4.0mm of Belt Width (Unit: N)

(kW)

Number of Small Pulley Teeth		14	15	16	18	20	22	24	26	28	30	32	36	40	44	50	60
Speed of Small Pulley (rpm)	Pitch Circle Dia. (mm)	8.91	9.55	10.19	11.46	12.73	14.01	15.28	16.55	17.83	19.10	20.37	22.92	25.46	28.01	31.83	38.2
870	26.9	28.2	29.2	30.8	32.0	32.9	33.6	34.2	34.6	34.9	35.2	35.5	35.7	35.8	35.8	35.8	35.5
1160	24.7	25.9	26.9	28.5	29.7	30.7	31.4	31.9	32.3	32.6	32.9	33.2	33.4	33.5	33.5	33.5	33.2
1750	21.4	22.6	23.7	25.3	26.5	27.4	28.1	28.6	29.0	29.4	29.6	30.0	30.1	30.2	30.2	30.2	29.9
3500	15.9	17.1	18.1	19.8	21.0	21.9	22.6	23.1	23.5	23.8	24.1	24.4	24.6	24.6	24.6	24.6	24.2
50	49.6	50.8	51.9	53.5	54.7	55.6	56.3	56.8	57.3	57.6	57.8	58.2	58.4	58.5	58.4	58.4	58.2
100	44.1	45.3	46.4	48.0	49.2	50.1	50.8	51.3	51.8	52.1	52.4	52.7	52.9	53.0	52.9	52.9	52.7
150	40.9	42.1	43.2	44.8	46.0	46.9	47.6	48.1	48.6	48.9	49.1	49.5	49.7	49.7	49.7	49.7	49.5
200	38.6	39.8	40.9	42.5	43.7	44.6	45.3	45.8	46.3	46.6	46.9	47.2	47.4	47.4	47.5	47.4	47.2
250	36.9	38.1	39.1	40.7	41.9	42.8	43.5	44.1	44.5	44.8	45.1	45.4	45.6	45.7	45.7	45.7	45.5
300	35.4	36.6	37.7	39.3	40.5	41.4	42.1	42.6	43.1	43.4	43.6	44.0	44.2	44.2	44.2	44.2	44.0
350	34.2	35.4	36.4	38.0	39.2	40.2	40.9	41.4	41.8	42.2	42.4	42.8	42.9	43.0	43.0	43.0	42.8
400	33.1	34.3	35.4	37.0	38.2	39.1	39.8	40.3	40.8	41.1	41.4	41.7	41.9	42.0	42.0	42.0	41.7
450	32.2	33.4	34.4	36.1	37.3	38.2	38.9	39.4	39.8	40.2	40.4	40.8	40.9	41.0	41.0	41.0	40.8
500	31.4	32.6	33.6	35.2	36.4	37.3	38.0	38.6	39.0	39.3	39.6	39.9	40.1	40.2	40.2	40.2	39.9
550	30.6	31.8	32.8	34.5	35.7	36.6	37.3	37.8	38.2	38.6	38.8	39.2	39.3	39.4	39.4	39.4	39.2
600	29.9	31.1	32.2	33.8	35.0	35.9	36.6	37.1	37.6	37.9	38.1	38.5	38.7	38.7	38.7	38.7	38.5
650	29.3	30.5	31.5	33.1	34.3	35.3	36.0	36.5	36.9	37.2	37.5	37.8	38.0	38.1	38.1	38.1	37.9
700	28.7	29.9	30.9	32.5	33.7	34.7	35.4	35.9	36.3	36.7	36.9	37.3	37.4	37.5	37.5	37.5	37.3
800	27.6	28.8	29.9	31.5	32.7	33.6	34.3	34.8	35.3	35.6	35.8	36.2	36.4	36.5	36.5	36.5	36.2
900	26.7	27.9	28.9	30.6	31.8	32.7	33.4	33.9	34.3	34.7	34.9	35.3	35.4	35.5	35.5	35.5	35.3
1000	25.9	27.1	28.1	29.7	30.9	31.8	32.5	33.1	33.5	33.8	34.1	34.4	34.6	34.7	34.7	34.7	34.4
1100	25.1	26.3	27.3	29.0	30.2	31.1	31.8	32.3	32.7	33.1	33.3	33.7	33.8	33.9	33.9	33.9	33.7
1200	24.4	25.6	26.7	28.3	29.5	30.4	31.1	31.6	32.1	32.4	32.6	33.0	33.1	33.2	33.2	33.2	33.0
1300	23.8	25.0	26.0	27.6	28.8	29.8	30.5	31.0	31.4	31.7	32.0	32.3	32.5	32.6	32.6	32.6	32.3
1400	23.2	24.4	25.4	27.0	28.2	29.2	29.9	30.4	30.8	31.1	31.4	31.7	31.9	32.0	32.0	32.0	31.7
1500	22.7	23.9	24.9	26.5	27.7	28.6	29.3	29.9	30.3	30.6	30.9	31.2	31.4	31.4	31.4	31.4	31.2
1600	22.1	23.3	24.4	26.0	27.2	28.2	28.8	29.3	29.8	30.1	30.3	30.7	30.9	30.9	30.9	30.9	30.7
1700	21.7	22.9	23.9	25.5	26.7	27.6	28.3	28.9	29.3	29.6	29.9	30.2	30.4	30.4	30.4	30.4	30.2
1800	21.2	22.4	23.4	25.0	26.2	27.2	27.9	28.4	28.8	29.1	29.4	29.7	29.9	30.0	30.0	30.0	29.7
1900	20.8	22.0	23.0	24.6	25.8	26.7	27.4	28.0	28.4	28.7	29.0	29.3	29.5	29.6	29.6	29.6	29.3
2000	20.4	21.6	22.6	24.2	25.4	26.3	27.0	27.6	28.0	28.3	28.6	28.9	29.1	29.1	29.1	29.1	28.9
2200	19.6	20.8	21.8	23.5	24.7	25.6	26.3	26.8	27.2	27.5	27.8	28.1	28.3	28.4	28.4	28.4	28.1
2400	18.9	20.1	21.1	22.8	24.0	24.9	25.6	26.1	26.5	26.9	27.1	27.4	27.6	27.7	27.7	27.7	27.4
2600	18.3	19.5	20.5	22.1	23.3	24.2	24.9	25.5	25.9	26.2	26.5	26.8	27.0	27.0	27.0	27.0	26.7
2800	17.7	18.9	19.9	21.5	22.7	23.6	24.3	24.9	25.3	25.6	25.9	26.2	26.4	26.4	26.4	26.4	26.1
3000	17.1	18.4	19.4	21.0	22.2	23.1	23.8	24.3	24.7	25.1	25.3	25.6	25.8	25.9	25.9	25.9	25.5
3200	16.6	17.8	18.9	20.5	21.7	22.6	23.3	23.8	24.2	24.5	24.8	25.1	25.3	25.3	25.3	25.3	25.0
3400	16.1	17.4	18.4	20.0	21.2	22.1	22.8	23.3	23.7	24.1	24.3	24.6	24.8	24.8	24.8	24.8	24.5
3600	15.7	16.9	17.9	19.5	20.7	21.6	22.3	22.9	23.3	23.6	23.8	24.2	24.3	24.4	24.4	24.4	24.0
3800	15.3	16.5	17.5	19.1	20.3	21.2	21.9	22.4	22.8	23.2	23.4	23.7	23.9	23.9	23.9	23.9	23.5
4000	14.9	16.1	17.1	18.7	19.9	20.8	21.5	22.0	22.4	22.7	23.0	23.3	23.5	23.5	23.5	23.5	23.1
4500	13.9	15.1	16.1	17.7	18.9	19.8	20.5	21.1	21.5	21.8	22.0	22.3	22.5	22.5	22.5	22.5	22.1
5000	13.1	14.3	15.3	16.9	18.1	19.0	19.7	20.2	20.6	20.9	21.2	21.5	21.6	21.6	21.6	21.6	21.1
5500	12.3	13.5	14.5	16.1	17.3	18.2	18.9	19.4	19.8	20.1	20.4	20.7	20.8	20.8	20.8	20.8	20.3
6000	11.6	12.8	13.8	15.4	16.6	17.5	18.2	18.7	19.1	19.4	19.6	19.9	20.0	20.1	20.1	20.1	19.5
6500	11.0	12.2	13.2	14.8	16.0	16.9	17.5	18.1	18.5	18.7	19.0	19.2	19.4	19.3	19.3	19.3	18.7
7000	10.4	11.6	12.6	14.2	15.4	16.3	16.9	17.4	17.8	18.1	18.3	18.6	18.7	18.7	18.7	18.7	17.9
7500	9.8	11.0	12.0	13.6	14.8	15.7	16.4	16.9	17.3	17.5	17.7	18.0	18.1	18.1	18.1	18.1	17.2
8000	9.3	10.5	11.5	13.1	14.3	15.2	15.8	16.3	16.7	17.0	17.2	17.4	17.5	17.4	17.4	17.2	16.6
9000	8.3	9.5	10.5	12.1	13.3	14.2	14.8	15.3	15.7	16.0	16.2	16.4	16.4	16.4	16.4	16.3	15.3

* Try to avoid use of belts within the range enclosed with [---]. Otherwise, the durable time might be shortened.

* The above table is for 4.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Timing Belt Selection of Transmission Timing Belts 12

Table 57. S3M Allowable Tension Table: Per 6.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Number of Small Pulley Teeth	Pitch Circle Dia. (mm)															
		14	15	16	18	20	22	24	26	28	30	32	36	40	44	50	60
		13.37	14.32	15.28	17.19	19.10	21.01	22.92	24.83	26.74	28.65	30.56	34.38	38.20	42.02	47.75	57.30
870	87	88	89	90	90	91	91	91	91	91	90	90	90	89	88	87	85
1160	82	83	84	85	85	86	86	86	86	85	85	85	84	84	83	82	80
1750	75	76	77	78	78	78	78	78	78	78	78	78	77	76	75	73	73
3500	63	64	64	65	65	65	65	65	65	65	65	65	65	64	63	62	59
50	138	139	139	140	141	141	141	141	141	141	141	141	140	140	139	137	136
100	126	126	127	128	128	129	129	129	129	129	128	128	128	127	126	125	123
150	118	119	120	121	121	122	122	122	122	121	121	121	120	120	119	118	116
200	113	114	115	116	116	117	117	117	117	116	116	116	115	115	114	113	111
250	109	110	111	112	112	113	113	113	113	112	112	112	111	111	110	109	107
300	106	107	108	109	109	109	109	109	109	109	109	109	108	108	107	106	104
350	103	104	105	106	106	107	107	107	107	106	106	106	105	105	104	103	101
400	101	102	103	104	104	104	104	104	104	104	104	104	103	103	102	101	99
450	99	100	101	101	102	102	102	102	102	102	102	102	101	100	100	99	97
500	97	98	99	100	100	100	100	100	100	100	100	100	99	99	98	97	95
550	96	96	97	98	98	99	99	99	99	99	98	98	98	97	96	95	93
600	94	95	95	96	97	97	97	97	97	97	97	97	96	95	95	94	92
650	93	93	94	95	95	96	96	96	96	96	95	95	95	94	93	92	90
700	91	92	93	94	94	94	94	95	95	94	94	94	94	93	93	92	91
800	89	90	90	91	92	92	92	92	92	92	92	92	91	90	90	89	87
900	87	88	88	89	90	90	90	90	90	90	90	90	89	88	87	86	85
1000	85	86	86	87	88	88	88	88	88	88	88	88	87	86	86	85	83
1100	83	84	85	86	86	86	86	87	87	86	86	86	85	85	84	83	81
1200	82	83	83	84	85	85	85	85	85	85	85	85	84	84	83	82	81
1300	80	81	82	83	83	84	84	84	84	84	84	84	83	82	82	81	79
1400	79	80	81	81	82	82	82	82	82	82	82	82	81	80	80	79	77
1500	78	79	79	80	81	81	81	81	81	81	81	81	80	80	79	78	75
1600	77	78	78	79	80	80	80	80	80	80	80	80	79	79	78	77	74
1700	76	77	77	78	79	79	79	79	79	79	79	79	78	78	77	76	73
1800	75	75	76	77	78	78	78	78	78	77	77	77	77	76	75	74	72
1900	74	75	75	76	77	77	77	77	77	77	77	77	76	75	74	73	71
2000	73	74	74	75	76	76	76	76	76	76	76	76	75	74	73	72	70
2200	71	72	73	73	74	74	74	74	74	74	74	74	73	72	72	70	68
2400	70	70	71	72	72	73	73	73	73	73	72	72	71	71	70	69	67
2600	68	69	70	71	71	71	71	71	71	71	71	71	70	69	68	67	65
2800	67	68	68	69	70	70	70	70	70	70	70	69	69	68	67	66	64
3000	66	66	67	68	69	69	69	69	69	69	68	68	67	67	66	65	62
3200	65	65	66	67	68	68	68	68	68	67	67	67	66	65	65	64	61
3400	63	64	65	66	66	66	66	66	66	66	66	66	65	64	63	62	60
3600	62	63	64	65	65	65	65	65	65	65	65	65	64	63	62	61	59
3800	61	62	63	64	64	64	64	64	64	64	64	64	63	62	61	60	58
4000	60	61	62	63	63	64	64	64	64	63	63	63	62	61	60	59	57
4500	58	59	60	61	61	61	61	61	61	61	61	61	60	59	58	57	54
5000	57	57	58	59	59	59	59	59	59	59	59	59	58	57	56	55	52
5500	55	56	56	57	58	58	58	58	58	57	57	57	56	55	54	52	49
6000	53	54	55	56	56	56	56	56	56	55	55	55	54	53	52	50	47
6500	52	53	53	54	54	55	55	55	54	54	54	54	53	52	51	50	48
7000	51	51	52	53	53	53	53	53	53	53	52	52	51	50	48	46	43
7500	49	50	51	51	52	52	52	52	52	51	51	51	50	49	48	47	45
8000	48	49	49	50	51	51	51	51	51	50	50	49	49	48	46	45	43
9000	46	47	47	48	48	48	48	48	48	47	47	46	45	44	42	39	35

* Try to avoid use of belts within the range enclosed with □ □ □ □. Otherwise, the durable time might be shortened.

* The above table is for 6.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Table 58. S5M Allowable Tension Table: Per 10.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Number of Small Pulley Teeth	Pitch Circle Dia. (mm)															
		14	15	16	18	20	22	24	26	28	30	32	36	40	44	48	60
		22.28	23.87	25.46	28.85	31.83	35.01	38.20	41.38	44.56	47.75	50.93	57.30	63.66	70.03	76.39	95.49
870	170	176	181	189	195	199	202	205	207	208	210	211	212	212	212	212	211
1160	159	165	170	178	183	188	191	194	196	197	198	200	201	201	201	201	199
1750	144	149	154	162	167	172	175	178	179	181	182	183	184	184	184	184	181
3500	116	122	127	134	140	144	147	149	151	152	153	153	153	152	151	145	145
50	280	286	291	299	304	309	312	315	317	318	319	321	322	322	322	322	321
100	254	259	264	272	278	282	285	288	290	292	293	294	295	296	296	294	294
150	238	244	249	256	262	267	270	272	274	276	277	279	280	280	280	280	279
200	227	232	238	245	251	255	258	261	263	265	266	268	269	269	269	269	268
250	218	224	229	237	243	247	250	253	255	256	258	259	260	260	260	259	259
300	211	217	222	230	236	240	243	246	248	249	251	252	253	253	253	253	252
350	205	211	216	224	230	234	237	240	242	243	245	246	247	247	247	247	246
400	200	206	211	219	224	229	232	235	237	238	240	241	242	242	242	242	241
450	196	202	206	214	220	224	228	230	232	234	235	237	237	238	238	238	236
500	190	196	202	210	216	220	224	226	228	230	231	233	233	234	234	234	232
550	188	194	199	206	212	217	220	223	226	227	229	230	230	230	230	229	229
600	185	191	195	203	209	213	217	219	221	223	224	225	226	227	227	227	225
650	182	187	192	200	206	210	214	216	218	220	221	222	223	224	224	223	222
700	179	185	189	197	203	207	211	213	215	217	218	220	220	221	221	221	219
800	174	179	184	192	198	202	206	208	210	212	213	214	215	215	215	215	214
900	169	175	180	188	193	198	201	204	205	207	208	210	211	211	211	211	209
1000	165	171	176	183	189	194	197	199									

Table 59. T5 Allowable Tension Table: Per 10.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Number of Small Pulley Teeth	Pitch Circle Dia. (mm)	14	16	18	20	22	24	28	30						
			22.28	25.46	28.65	31.83	35.01	38.20	44.56	47.75						
1160	85	85	85	85	85	85	85	85	85	-	-	-	-	-	-	
1750	77	77	77	77	77	77	77	77	77	-	-	-	-	-	-	
3500	64	64	64	64	64	64	64	64	64	-	-	-	-	-	-	
100	106	107	106	106	106	106	106	106	106	-	-	-	-	-	-	
200	104	104	104	104	104	104	104	104	104	-	-	-	-	-	-	
300	102	102	102	102	102	102	102	102	102	-	-	-	-	-	-	
400	99	99	99	99	99	99	99	99	99	-	-	-	-	-	-	
500	97	97	97	97	97	97	97	97	97	-	-	-	-	-	-	
600	95	95	95	95	95	95	95	95	95	-	-	-	-	-	-	
700	93	93	93	93	93	93	93	93	93	-	-	-	-	-	-	
800	91	91	91	91	91	91	91	91	91	-	-	-	-	-	-	
900	89	89	89	89	89	89	89	89	89	-	-	-	-	-	-	
1000	87	87	87	87	87	87	87	87	87	-	-	-	-	-	-	
1100	86	86	86	86	86	86	86	86	86	-	-	-	-	-	-	
1200	84	84	84	84	84	84	84	84	84	-	-	-	-	-	-	
1300	83	83	83	83	83	83	83	83	83	-	-	-	-	-	-	
1400	81	81	81	81	81	81	81	81	81	-	-	-	-	-	-	
1500	80	80	80	80	80	80	80	80	80	-	-	-	-	-	-	
1600	79	79	79	79	79	79	79	79	79	-	-	-	-	-	-	
1700	77	77	77	77	77	77	77	77	77	-	-	-	-	-	-	
1800	76	76	76	76	76	76	76	76	76	-	-	-	-	-	-	
1900	75	75	75	75	75	75	75	75	75	-	-	-	-	-	-	
2000	74	74	74	74	74	74	74	74	74	-	-	-	-	-	-	
2200	72	72	72	72	72	72	72	72	72	-	-	-	-	-	-	
2400	70	70	70	70	70	70	70	70	70	-	-	-	-	-	-	
2600	69	69	69	69	69	69	69	69	69	-	-	-	-	-	-	
2800	67	67	67	67	67	67	67	67	67	-	-	-	-	-	-	
3000	66	66	66	66	66	66	66	66	66	-	-	-	-	-	-	
3200	65	65	65	65	65	65	65	65	65	-	-	-	-	-	-	
3400	64	64	64	64	64	64	64	64	64	-	-	-	-	-	-	
3600	63	63	63	63	63	63	63	63	63	-	-	-	-	-	-	
3800	62	62	62	62	62	62	62	62	62	-	-	-	-	-	-	
4000	61	61	61	61	61	61	61	61	61	-	-	-	-	-	-	
4200	61	61	61	61	61	61	61	61	61	-	-	-	-	-	-	
4400	60	60	60	60	60	60	60	60	60	-	-	-	-	-	-	
4600	59	59	59	59	59	59	59	59	59	-	-	-	-	-	-	
4800	58	58	58	58	58	58	58	58	58	-	-	-	-	-	-	
5000	57	57	57	57	57	57	57	57	57	-	-	-	-	-	-	
5500	-	55	55	55	55	55	55	55	55	-	-	-	-	-	-	
6000	-	51	51	51	51	51	51	51	51	-	-	-	-	-	-	
6500	-	47	47	47	47	47	47	47	47	-	-	-	-	-	-	
7000	-	41	41	41	41	41	41	41	41	-	-	-	-	-	-	
7500	-	34	34	34	34	34	34	34	34	-	-	-	-	-	-	
8000	-	-	24	24	24	24	24	24	24	-	-	-	-	-	-	
8500	-	-	12	12	12	12	12	12	12	-	-	-	-	-	-	

* Try to avoid use of belts within the range enclosed with [---]. Otherwise, the durable time might be shortened.

* The above table is for 10.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Table 60. T10 Allowable Tension Table: Per 10.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Number of Small Pulley Teeth	Pitch Circle Dia. (mm)	12	14	16	18	20	22	24	26	28	30	32	36	40	44	48
			38.20	44.56	50.93	57.30	63.66	70.03	76.39	82.76	89.12	95.49	101.86	114.59	127.32	140.06	152.79
870	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
1160	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138
1750	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
3500	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
100	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174
200	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
300	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
400	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
500	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
600	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
700	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
800	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149
900	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146
1000	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
1100	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
1200	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
1300	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
1400	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133
1500	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
1600	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128
1700	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
1800	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
1900	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122
2000	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
2200	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
2400	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
2600	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
2800	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
3000	-	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108
3200	-	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
3400	-	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
3600	-	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
3800	-	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102
4000	-	-	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
4200	-	-	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
4400	-	-	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98
4600	-	-	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
4800	-	-	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
5000	-	-	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
5200	-	-	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
5400	-	-	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
5600	-	-	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
5800	-	-	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
6000	-	-	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84

* Try to avoid use of belts within the range enclosed with [---]. Otherwise, the durable time might be shortened.

* For the range enclosed with [---], be sure to provide some means to retain dynamic balance, because the pulley constant speed becomes 33 (m/s) or faster.

* The above table is for 10.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Timing Belt Selection of Transmission Timing Belts 13

Table 61. 2GT Allowable Tension Table: Per 4.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Number of Small Pulley Teeth		Pitch Circle Dia. (mm)															
	12	14	16	18	20	22	24	26	28	30	32	36	40	44	48	50	60	72
	7.64	8.91	10.19	11.46	12.73	14.01	15.28	16.55	17.83	19.10	20.37	22.92	25.46	28.01	30.56	31.83	38.20	45.84
20	56.09	57.27	58.45	59.63	60.80	61.98	63.16	64.33	65.51	66.69	67.86	70.22	72.57	74.92	77.28	78.45	84.34	84.34
40	50.60	51.78	52.96	54.13	55.31	56.49	57.66	58.84	60.02	61.20	62.37	64.73	67.08	69.43	71.79	72.96	78.85	78.85
60	47.39	48.57	49.75	50.92	52.10	53.28	54.45	55.63	56.81	57.98	59.16	61.51	63.87	66.22	68.57	69.75	75.64	75.64
100	43.35	44.52	45.70	46.88	48.05	49.23	50.41	51.58	52.76	53.94	55.11	57.47	59.82	62.17	64.53	65.70	71.59	71.59
200	37.85	39.03	40.21	41.38	42.56	43.74	44.92	46.09	47.27	48.45	49.62	51.98	54.33	56.68	59.04	60.21	66.10	66.10
300	34.64	35.82	37.00	38.17	39.35	40.53	41.70	42.88	44.06	45.23	46.41	48.76	51.12	53.47	55.82	57.00	62.89	62.89
400	32.36	33.54	34.72	35.89	37.07	38.25	39.42	40.60	41.78	42.95	44.13	46.49	48.84	51.19	53.55	54.72	60.61	60.61
500	30.60	31.77	32.95	34.13	35.30	36.48	37.66	38.83	40.01	41.19	42.36	44.72	47.07	49.42	51.78	52.96	58.84	58.84
600	29.15	30.33	31.51	32.68	33.86	35.04	36.21	37.39	38.57	39.74	40.92	43.27	45.63	47.98	50.33	51.51	57.39	57.39
700	27.93	29.11	30.28	31.46	32.64	33.81	34.99	36.17	37.34	38.52	39.70	42.05	44.41	46.76	49.11	50.29	56.17	56.17
800	26.87	28.05	29.23	30.40	31.58	32.76	33.93	35.11	36.29	37.46	38.64	40.99	43.35	45.70	48.06	49.23	55.12	55.12
870	26.21	27.39	28.56	29.74	30.92	32.09	33.27	34.45	35.62	36.80	37.98	40.33	42.68	45.04	47.39	48.57	54.45	54.45
900	25.94	27.12	28.29	29.47	30.65	31.82	33.00	34.18	35.35	36.53	37.71	40.06	42.41	44.77	47.12	48.30	54.18	54.18
1000	25.11	26.28	27.46	28.64	29.81	30.99	32.17	33.34	34.52	35.70	36.87	39.23	41.58	43.93	46.29	47.46	53.35	53.35
1160	23.93	25.11	26.28	27.46	28.64	29.81	30.99	32.17	33.34	34.52	35.70	38.05	40.40	42.76	45.11	46.29	52.17	52.17
1200	23.66	24.84	26.01	27.19	28.37	29.54	30.72	31.90	33.08	34.25	35.43	37.78	40.14	42.49	44.84	46.02	51.90	51.90
1400	22.44	23.62	24.79	25.97	27.15	28.32	29.50	30.68	31.85	33.03	34.21	36.56	38.91	41.27	43.62	44.80	50.68	50.68
1450	22.16	23.34	24.52	25.69	26.87	28.05	29.22	30.40	31.58	32.75	33.93	36.28	38.64	40.99	43.34	44.52	50.40	50.40
1600	21.38	22.56	23.74	24.91	26.09	27.27	28.44	29.62	30.80	31.97	33.15	35.50	37.86	40.21	42.56	43.74	49.62	49.62
1750	20.67	21.85	23.03	24.20	25.38	26.56	27.73	28.91	30.09	31.26	32.44	34.79	37.15	39.50	41.85	43.03	48.92	48.92
1800	20.45	21.63	22.80	23.98	25.16	26.33	27.51	28.69	29.86	31.04	32.22	34.57	36.92	39.28	41.63	42.81	48.69	48.69
2000	19.61	20.79	21.97	23.14	24.32	25.50	26.67	27.85	29.03	30.21	31.38	33.74	36.09	38.44	40.80	41.97	47.86	47.86
2400	18.17	19.35	20.52	21.70	22.88	24.05	25.23	26.41	27.58	28.76	29.94	32.29	34.65	37.00	39.35	40.53	46.41	46.41
2800	16.95	18.13	19.30	20.48	21.66	22.83	24.01	25.19	26.36	27.54	28.72	31.07	33.42	35.78	38.13	39.31	45.19	45.19
3200	15.89	17.07	18.24	19.42	20.60	21.77	22.95	24.13	25.31	26.48	27.66	30.01	32.37	34.72	37.07	38.25	44.13	44.13
3600	14.96	16.13	17.31	18.49	19.67	20.84	22.02	23.20	24.37	25.55	26.73	29.08	31.43	33.79	36.14	37.32	43.20	43.20
4000	14.12	15.30	16.48	17.65	18.83	20.01	21.18	22.36	23.54	24.71	25.89	28.24	30.60	32.95	35.31	36.48	42.37	42.37
5000	12.36	13.53	14.71	15.89	17.06	18.24	19.42	20.59	21.77	22.95	24.12	26.48	28.83	31.18	33.54	34.71	40.60	40.60
6000	10.91	12.09	13.26	14.44	15.62	16.80	17.97	19.15	20.33	21.50	22.68	25.03	27.39	29.74	32.09	33.27	39.15	39.15
7000	9.69	10.87	12.04	13.22	14.40	15.57	16.75	17.93	19.10	20.28	21.46	23.81	26.17	28.52	30.87	32.05	37.93	37.93
8000	8.63	9.81	10.99	12.16	13.34	14.52	15.69	16.87	18.05	19.22	20.40	22.75	25.11	27.46	29.81	30.99	36.88	36.88
10000	6.86	8.04	9.22	10.40	11.57	12.75	13.93	15.10	16.28	17.46	18.63	20.99	23.34	25.69	28.05	29.23	35.11	35.11
12000	5.42	6.60	7.77	8.95	10.13	11.30	12.48	13.66	14.83	16.01	17.19	19.54	21.90	24.25	26.60	27.78	33.66	33.66
14000	4.20	5.38	6.55	7.73	8.91	10.08	11.26	12.44	13.61	14.79	15.97	18.32	20.67	23.03	25.38	26.56	32.44	32.44

* Try to avoid use of belts within the range enclosed with []. Otherwise, the durable time might be shortened.

* The above table is for 4.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Table 62. 3GT Allowable Tension Table: Per 6.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Number of Small Pulley Teeth		Pitch Circle Dia. (mm)															
	12	14	16	18	20	22	24	26	28	30	32	36	40	48	54	60	72	80
	11.46	13.37	15.28	17.19	19.10	21.01	22.92	24.83	26.74	28.65	30.56	34.38	38.20	45.84	51.57	57.30	68.75	76.39
20	167.63	179.89	188.72	195.58	200.00	204.41	207.10	209.80	211.71	213.63	214.66	216.67	217.87	218.78	219.08	219.05	218.33	217.65
40	149.92	162.18	171.00	177.87	182.28	186.70	189.39	192.09	194.00	195.91	196.94	198.95	200.16	201.07	201.37	201.34	200.62	199.93
60	139.56	151.82	160.64	167.51	171.92	176.33	179.03	181.73	183.64	185.55	186.58	188.59	189.80	190.71	191.00	190.98	190.26	189.57
100	126.51	138.76	147.59	154.45	158.87	163.28	165.98	168.67	170.59	172.50	173.53	175.54	176.74	177.66	177.95	177.92	177.20	176.52
200	108.79	121.05	129.88	136.74	141.15	145.57	148.26	150.96	152.87	154.79	155.81	157.82	159.03	159.94	160.23	160.20	159.49	158.80
300	98.43	110.69	119.52	126.38	130.79	135.21	137.90	140.60	142.51	144.42	145.45	147.46	148.67	149.58	149.87	149.84	149.12	148.43
400	91.08	103.34	112.16	119.03	123.44	127.85	130.55	133.25	135.16	137.07	138.10	140.11	141.31	142.22	142.51	142.48	141.75	141.06
500	85.38	97.64	106.46	113.32	117.74	122.15	124.85	127.54	129.45	131.36	132.39	134.40	135.60	136.51	136.80	136.76	136.03	135.33
600	80.72	92.98	101.80	108.66	113.08	117.49	120.18	122.88	124.79	126.70	127.73	129.74	130.94	131.84	132.13	132.09	131.35	130.65
700	76.78	89.04	97.86	104.72	109.14	113.55	116.24	118.94	120.85	122.76	123.79	125.79	126.99	127.89	128.17	128.13	127.39	126.68
800	73.36	85.62	94.45	101.31	105.72	110.13	112.83	115.52	117.43	119.34	120.37	122.37	123.57	124.47	124.75	124.70	123.95	123.23
870	71.22	83.48	92.30	99.16	103.58	107.99	110.68	113.37	115.28	117.19	118.22	120.22	121.42	122.31	122.59	122.54	121.78	121.06
900	70.35	82.61	91.44	98.30	102.71	107.12	109.81	111.51	114.42	116.33	117.35	119.35	120.55	121.44	121.72	121.67	120.91	120.19
1000	67.66	79.92	88.74	95.60	100.01	104.42	107.12	109.81	111.72	113.63	114.65	116.65	117.85	118.73	119.01	118.95	118.18	117.45
1160	63.87	76.12	84.95	91.81	96.22	100.62	103.32	106.01	107.92	109.82	110.85	112.84	114.04	114.91	115.18	115.12	114.32	113.58
1200	63.00	75.26	84.08	90.94	95.35	99.76	102.45	105.14	107.05	108.95	109.98	111.97	113.16	114.04	114.30	114.24	113.44	112.69
1400	59.06	71.31	80.13	86.99	91.40	95.81	98.50	101.19	103.09	105.00	106.02	108.01	109.19	110.06	110.31	110.23	109.40	108.63
1450	58.16	70.41	79.24	86.10	90.50	94.91	97.60	100.29	102.19	104.10	105.12	107.11	108.29	109.15	109.40	109.31	108.48	107.70
1600	55.64	67.89	76.72	83.57	87.98	92.39	95.07	97.76	99.66	101.57	102.58	104.57	105.75	106.59	106.83	106.74	105.88	105.08
1750	53.35	65.60	74.42	81.28	85.68	90.09	92.77	95.46	97.36	99.26	100.28	102.26	103.43	104.26	104.49	104.38	103.49	102.67
1800	52.63	64.88	73.70															

Table 63. EV5GT Allowable Tension Table: Per 15.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Pitch Circle Dia. (mm)	Number of Small Pulley Teeth																	
		14	16	18	20	22	24	26	28	30	32	36	40	44	48	54	60	72	80
20	22.28	569.50	672.00	745.30	816.20	899.70	942.90	978.90	1009.40	1033.20	1046.90	1067.20	1085.40	1088.20	1085.60	1079.30	1076.30	1063.30	1046.20
40	508.10	610.60	684.30	755.50	832.50	875.30	910.90	941.20	964.80	978.90	999.80	1018.20	1021.90	1020.30	1015.30	1013.20	1001.90	986.10	
60	472.20	574.70	648.70	720.00	793.20	835.80	871.20	901.20	924.70	939.10	960.40	978.90	983.10	982.10	977.90	976.30	966.00	951.00	
100	427.00	529.50	603.80	675.20	743.70	785.90	821.10	850.90	874.20	889.00	910.70	929.40	934.30	934.00	930.70	929.80	920.70	906.70	
200	365.60	468.00	542.90	614.50	676.50	718.30	753.10	782.70	805.80	820.90	843.20	862.30	868.00	868.70	866.80	866.70	859.30	846.70	
300	329.70	432.10	507.20	579.00	637.10	678.80	713.40	742.80	765.70	781.10	803.80	823.00	830.50	829.30	830.50	829.80	829.80	823.40	811.60
400	304.20	406.60	481.90	553.80	609.20	650.70	685.10	714.40	737.30	752.90	775.80	795.10	801.80	803.40	802.80	803.60	797.90	786.60	
500	284.40	386.90	462.30	534.20	587.60	628.90	663.30	692.50	715.20	731.00	754.10	773.50	780.40	782.40	782.20	783.30	778.20	767.30	
600	268.30	370.70	446.30	518.30	569.90	611.10	645.40	674.50	697.20	713.10	736.30	755.90	763.00	765.30	765.40	766.70	762.00	751.50	
700	254.80	357.10	432.70	504.80	555.00	596.10	630.30	659.30	682.00	698.00	721.30	740.90	748.30	750.70	751.10	752.60	748.40	738.10	
800	242.80	345.20	421.00	493.10	542.00	583.10	617.20	646.20	668.80	684.90	708.40	728.00	735.50	738.20	738.80	740.50	736.50	726.60	
870	235.40	337.80	413.60	485.70	533.90	574.90	609.00	637.90	660.50	676.60	700.20	719.90	727.50	730.30	731.10	732.90	729.10	719.30	
900	232.40	334.80	410.60	482.70	530.60	571.60	605.60	634.60	657.20	673.30	696.90	716.60	724.20	727.10	727.90	729.80	726.10	716.40	
1000	223.00	325.50	401.40	473.50	520.40	561.30	595.30	624.20	646.80	663.00	686.60	706.40	714.20	717.10	718.20	720.20	716.80	707.20	
1160	209.90	312.30	388.30	460.50	506.00	546.80	580.80	609.60	632.10	648.40	672.20	692.00	700.00	703.20	704.50	706.70	703.60	694.40	
1200	206.90	309.30	385.30	457.50	502.70	543.50	577.40	606.30	628.80	645.10	668.90	688.70	696.70	700.00	701.40	703.60	700.60	691.50	
1400	193.20	295.70	371.80	444.00	487.80	528.50	562.30	591.10	613.50	629.90	653.90	673.80	682.00	685.40	687.20	689.50	687.00	678.10	
1500	190.10	292.60	368.70	441.00	484.40	525.10	558.90	587.60	610.10	626.50	650.50	670.40	678.60	682.10	683.90	686.30	683.80	675.10	
1600	181.40	283.80	360.10	432.30	474.80	515.50	549.20	577.90	600.30	616.80	640.90	660.80	669.20	672.40	674.80	677.40	675.10	666.50	
1750	173.50	275.90	352.20	424.50	466.10	506.70	540.40	569.10	591.50	608.00	632.20	652.20	660.70	664.90	666.60	669.20	667.20	658.80	
1800	171.00	273.40	349.70	422.00	463.40	504.00	537.70	566.30	588.70	605.30	629.50	649.40	658.00	661.80	664.00	666.70	664.70	656.30	
2000	161.60	264.10	340.40	412.80	453.20	493.70	527.30	556.00	578.30	594.90	619.20	639.20	647.90	651.80	654.20	657.10	655.40	647.20	
2400	145.50	247.90	324.40	396.80	435.50	475.90	509.50	538.00	560.30	577.00	601.50	621.60	630.50	634.70	637.40	640.50	639.20	631.40	
2800	135.20	234.30	310.90	383.30	420.60	460.90	494.40	522.80	545.00	561.90	586.50	606.60	615.70	620.20	623.20	626.40	625.60	618.00	
3200	130.90	224.20	299.10	371.60	407.60	447.80	481.30	509.70	531.90	548.80	573.50	593.70	603.00	607.60	610.80	614.30	613.70	606.50	
3600	127.00	212.00	288.80	361.30	396.20	436.30	469.70	498.10	520.20	537.20	562.00	582.30	591.70	596.60	600.00	603.60	603.30	596.30	
4000	123.50	202.70	279.50	352.10	386.00	426.10	459.40	487.70	509.80	526.90	551.80	572.10	581.60	586.50	590.30	594.00	594.00	587.10	
5000	116.20	182.90	259.90	332.50	364.30	404.30	437.50	465.70	487.80	505.00	530.10	550.40	560.30	565.50	569.70	573.70	574.20	567.80	
6000	-	166.70	243.90	316.50	346.70	386.50	419.60	447.80	469.70	487.10	512.30	532.80	542.90	548.40	552.80	557.10	558.10	552.00	
7000	-	153.10	230.30	303.00	331.70	371.50	404.50	432.60	454.50	472.00	497.30	517.80	528.10	533.80	538.60	543.00	544.00	538.70	
8000	-	-	218.60	291.30	318.80	358.40	391.40	419.50	441.30	458.80	484.30	504.90	515.40	521.30	526.30	530.90	532.60	-	
9000	-	-	208.20	281.00	307.30	347.00	379.90	407.90	429.70	447.30	472.90	493.50	504.10	510.20	515.40	520.20	-	-	
10000	-	-	-	271.80	297.10	336.70	369.50	397.50	419.30	436.90	462.60	483.30	494.00	500.30	505.70	-	-	-	
12000	-	-	-	255.80	279.40	318.90	351.70	379.50	401.30	419.00	444.90	465.60	476.60	483.10	-	-	-	-	
14000	-	-	-	242.30	264.50	303.90	336.60	364.40	386.00	403.90	429.90	450.70	-	-	-	-	-	-	

* Try to avoid use of belts within the range enclosed with [---]. Otherwise, the durable time might be shortened.
 * The above table is for 15.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Table 64. EV8YU Allowable Tension Table: Per 20.0mm of Belt Width (Unit: N)

Speed of Small Pulley (rpm)	Pitch Circle Dia. (mm)	Number of Small Pulley Teeth																	
		20	22	24	26	28	30	32	34	36	38	40	44	48	54	60	64	72	80
10	50.93	1379.15	1402.18	1425.20	1448.23	1471.25	1494.28	1517.31	1528.82	1540.33	1551.84	1574.87	1597.90	1620.92	1639.34	1655.46	1666.97	1678.49	1689.95
20	1285.58	1315.53	1345.49	1375.45	1405.40	1435.36	1465.32	1480.30	1495.28	1510.25	1540.21	1570.17	1600.13	1624.09	1645.06	1660.04	1675.02	1689.93	
40	1192.00	1228.89	1265.78	1302.67	1339.55	1376.44	1413.33	1431.77	1450.22	1468.66	1505.55	1542.44	1579.33	1608.83	1634.65	1653.10	1671.54	1689.90	
60	1137.26	1178.20	1219.15	1260.09	1301.03	1341.97	1382.92	1403.39	1423.86	1444.33	1485.27	1526.21	1567.15	1599.90	1628.56	1649.02	1669.49	1689.87	
100	1068.29	1114.34	1160.39	1206.44	1252.49	1298.54	1344.59	1367.61	1390.64	1413.66	1459.71	1505.75	1551.79	1588.62	1620.84	1643.86	1666.86	1689.77	
200	974.69	1027.67	1080.64	1133.62	1186.59	1239.56	1292.54	1319.02	1345.50	1371.98	1424.95	1477.90	1530.85	1573.18	1610.21	1636.66	1663.06	1689.34	
300	919.91	976.93	1033.95	1090.97	1147.99	1205.00	1262.02	1290.51	1319.00	1347.49	1404.50	1461.49	1518.44	1563.95	1603.74	1632.16	1660.47	1688.64	
400	881.01	940.90	1000.78	1060.66	1120.54	1180.41	1240.28	1270.20	1300.11	1330.01	1389.87	1449.67	1509.46	1557.18	1598.88	1628.66	1658.24	1687.66	
500	850.81	912.91	975.01	1037.10	1099.19	1161.27	1223.35	1254.35	1285.35	1316.34	1378.40	1440.37	1502.31	1551.70	1594.83	1625.63	1656.12	1686.41	
600	826.10	890.01	953.90	1017.79	1081.68	1145.56	1209.43	1241.31	1273.19	1305.06	1368.90	1432.61	1496.29	1546.99	1591.24	1622.83	1653.97	1684.87	
700	805.18	870.60	936.01	1001.42	1066.81	1132.20	1197.58	1230.20	1262.80	1295.40	1360.75	1425.90	1491.02	1542.78	1587.91	1620.14	1651.74	1683.07	
800	787.02	853.75	920.47	987.18	1053.87	1120.56	1187.23	1220.47	1253.70	1286.92	1353.55	1419.93	1486.26	1538.89	1584.73	1617.47	1649.38	1680.98	
870	775.60	843.14	910.68	978.20	1045.71	1113.20	1180.68	1214.31	1247.92	1281.52	1348.95	1416.08	1483.16	1536.31	1582.56	1615.59	1647.65	1679.36	
900	770.97	838.85	906.71	974.56	1042.40	1110.22	1178.02	1211.80	1245.57	1279.32	1347.07	1414.50	1481.88	1535.22	1581.64	1614.78	1646.88	1678.62	
1000	756.59	825.48	894.36	963.22	1032.06	1100.89	1169.70	1203.95	1238.19	1272.40	1341.14	1409.49	1477.77	1531.70	1578.58	1612.04	1644.22	1675.98	
1160	736.25	806.57	876.86	947.13	1017.38	1087.60	1157.80	1192.69	1227.57	1262.42	1332.52	1402.10	1471.59	1526.25	1573.65	1607.48	1639.59	1671.18	
1200	731.59	802.23	872.84	943.43	1013.99	1084.53	1155.05	1190.08	1225.10	1260.09	1330.50	1400.35	1470.10	1524.91	1572.41	1606.31	1638.36	1669.87	
1400	710.33	782.41	854.47	926.48	998.47	1070.41	1142.33	1177.99	1213.62	1249.21	1320.99	1392.00	1462.88	1518.23	1562.60				

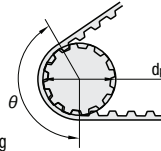
Timing Belt Selection of Synchronous Belt 1

Iron Rubber® Belts are selected based on applied Load Torque (Nm) or Transmission Capacity (kW).

Selection Condition

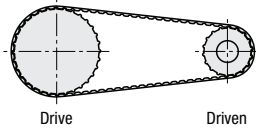
Conditions Needed For Selecting

- Pulley Pitch Diameter: d_p (mm)
- Pulley Rotational Speed: n (rpm)
- Pulley Wrap Angle: θ (°)
- Load Torque: M_d (Nm)
or Transmission Capacity: P (kW)

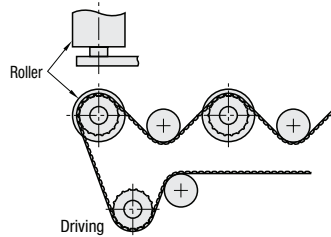


Fundamentally use the Drive side pulley for calculations. When the Driven side pulley is also transmitting torque, calculate for the Driven side also, and make the belt selection based on more severe side.

Ex. 1) When Drive Pulley Diameter > Driven Pulley Diameter, also calculate for the Driven side pulley.



Ex. 2) When the driven pulley is connected to a roller, also calculate for the Driven side.



Selection Method

[Step 1] Load Torque, Transmission Capacity Corrections

Back-side Idler Correction

- When a Transmission Capacity is given as a conditional parameter

$$P = P_0 \times (1 + 0.1 \times f)$$

P : Transmission Capacity Used for Selection (kW)

P_0 : Transmission Capacity Given as Conditional Parameter (kW)

f : Number of Back-side Idlers

- When a Load Torque is given as a conditional parameter

$$M_d = M_{d0} \times (1 + 0.1 \times f)$$

M_d : Transmission Capacity Used for Selection (Nm)

M_{d0} : Transmission Capacity Given as Conditional Parameter (Nm)

f : Number of Back-side Idlers

[Step 2] Selection of Belt Model

Select belt model using Simplified Selection Chart on P.385.

- When a Transmission Capacity is given as a conditional parameter

Select belt model based on Transmission Capacity and Pulley Speed (See Table 6)

- When a Load Torque is given as a conditional parameter

Select belt model based on Load Torque and Number of Sm. Pulley Tooth (See Table 7)

[Step 3] Selection of Pulley Tooth Count Z

Note the Min. Pulley Tooth Count when selecting the number of tooth. (See Table 1)

Table 1: Min. Pulley Tooth Count

Rotational Speed (rpm)	MA3	MA5	MA8	AT5	AT10	T5	T10	MXL	XL	L	H
600 or Less	18	15	20	15	15	12	14	12	10	10	14
720 or Less			22							12	
900 or Less			24							16	
1200 or Less			26							18	
1800 or Less	20	20	26	16	20	14	18	14	12	14	18
3000 or Less	22	24	28	18	22	16	20	16	12	16	20

[Step 4] Selection of Belt Tooth Count ZB

<When pulley ratio is not 1:1>

Obtain belt tooth count from belt length.

Select belt loop length from shaft distance (C), Lg. Pulley Dia., and Sm. Pulley Dia.

$$L_p = 2C + \frac{\pi(D_p + d_p)}{2} + \frac{(D_p - d_p)^2}{4C}$$

C : Shaft Center Distance

d_p : Small Pulley Pitch Circle Diameter (mm)

D_p : Large Pulley Pitch Circle Diameter (mm)

L_p : Belt length (mm)

Calculate number of tooth from belt length.

$$Z_B = \frac{L_p}{t}$$

Z_B : Number of Belt Tooth

t : Belt Pitch (exT10 → $t=10$)

<When pulley ratio is 1:1>

$$Z_B = \frac{2C}{t} + Z$$

C : Shaft Center Distance

t : Belt Pitch

Z : Number of Pulley Tooth

[Step 5] Calculating Tooth Mesh Count

<When pulley ratio is not 1:1>

$$Z_E = \frac{z_1}{180} \times \cos^{-1} \frac{t(z_2 - z_1)}{2\pi C}$$

z_1 : Small Pulley Number of Tooth

z_2 : Large Pulley Number of Tooth

<When pulley ratio is 1:1>

$$Z_E = \frac{z}{2}$$

z : Number of Pulley Tooth

However, Max. Number of Effective Meshed Teeth on the right table will be the upper limit.

Table 2: Max. Number of Effective Meshed Teeth

Belt Type	Max. Number of Effective Meshed Teeth
Long Synchronous Belt	6
Open End Belt	12

[Step 6] Calculating Minimum Belt Width bc

Calculate the minimum belt width from Allowable Transmission Capacity and Allowable Transmission Torque on **P.385**.

- When a Transmission Capacity is given as a conditional parameter Allowable Transmission Capacity (Ps) in Table 8 (**P.385**) is used.

$$bc = \frac{P \times 10^4}{P_s \times Z_E \times Z} \times fw$$

bc: Belt Width (mm)
P: Transmission Capacity (kW)
Ps: Allowable Transmission Capacity
Ze: Number of Meshing Tooth

fw: Width Factor (Long Synchronous Belt T10150 : 1.5)
Others : 1)
Z: Number of Pulley Tooth

- When a Load Torque is given as a conditional parameter Allowable Transmission Torque (Mds) in Table 9 (**P.385**) is used.

$$bc = \frac{Md \times 10^3}{M_{ds} \times Z_E \times Z} \times fw$$

Md: Load Torque (Nm)
Mds: Allowable Transmission Torque
Ze : Number of Meshing Tooth

fw: Width Factor (Long Synchronous Belt T10150 : 1.5)
Others : 1)
Z: Number of Pulley Tooth

Select standard belt widths larger than the calculated minimum width bc.

[Step 7] Confirming Min. Shaft Center Distance Adjustment Range

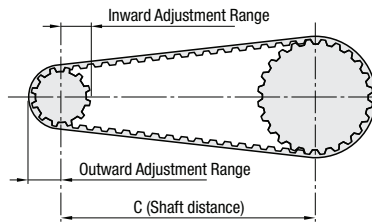
Refer to the table below for Min. Shaft Center Distance Adjustment Range by considering the mounting and adjustment range.

Table 3: Outside Adjustment Range

Outside Adjustment Range (mm)	Outside Adjustment Range (mm)
600 or Less	5
Over 600-1000 or Less	10
Over 1000-1500 or Less	15
Over 1500-2000 or Less	20
Over 2000-2500 or Less	25
Over 2500-3000 or Less	30
Over 3000	Shaft Center Distance × 0.01

Table 4: Inside Adjustment Range

Model	Inside Adjustment Range (mm)
MA3, T5, XL, MXL	5
MA5, AT5, L	10
MA8, AT10, T10, H	15



For flanged pulleys, allow ample adjustment margin by considering the flange dia .

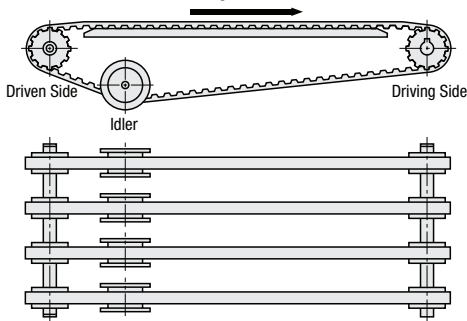
Notes on Selection

• Load Torque and Transmission capability

Load torque and transmission capability should be calculated from absolute max. load values applicable to the belt for safety.

• For Multiple Belt Parallel Use

- If each belt receives an equal load, calculate with a value of total load divided by the number of belts used.
- However, if the load on each belt may potentially become uneven, calculate with the max. load applicable on one belt.
- The mechanism should be designed to facilitate individual belt tension adjustments.

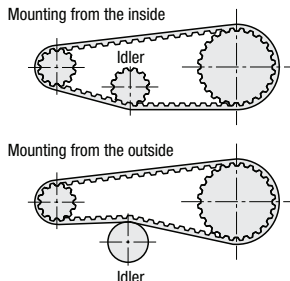


• When an Idler is used

- If use of Idler is unavoidable, always use the Idler on the slack side.
 - Position the Idler on the inside if possible.
- When positioning an Idler on the inside, use one with more teeth than the smaller side pulley.
For placing the Idler on the outside, use a flat pulley not crowned.

Table 5. Minimum Idler Diameter

Belt Type	Minimum Idler Diameter (mm)
MA3	30
MA5, AT5	40
MA8, AT10	80
T5	30
T10	70
MXL	15
XL	30
L	50
H	90



Timing Belt Selection of Synchronous Belt 2

Table 6: Selection Guide Table 1 (Transmission Capacity)

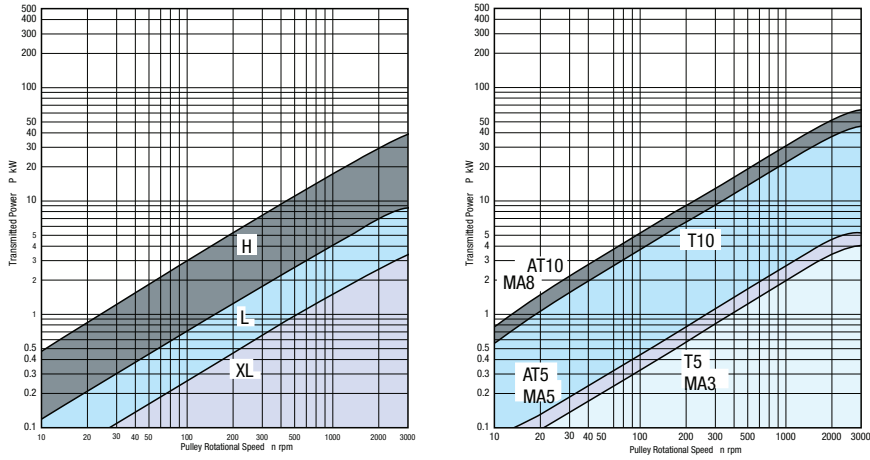


Table 7: Selection Guide Table 2 (Torque)

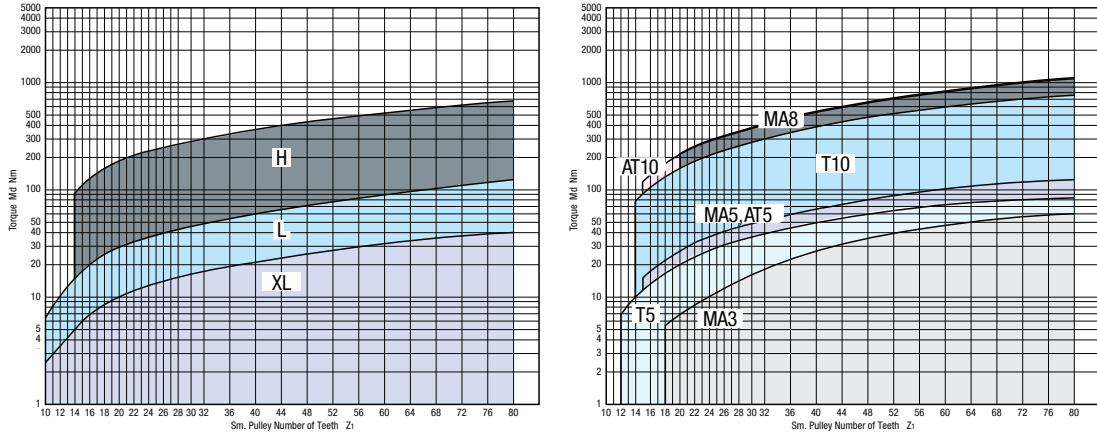


Table 8: Allowable Transmission Capacity (Ps)

Pulley Rotational Speed n (rpm)	MA3	MA5	MA8	AT5	AT10	T5	T10	MXL	XL	L	H
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.026	0.052	0.181	0.052	0.226	0.043	0.181	0.007	0.044	0.129	0.206
40	0.050	0.101	0.351	0.101	0.439	0.084	0.351	0.014	0.085	0.250	0.401
60	0.074	0.147	0.511	0.147	0.639	0.123	0.511	0.020	0.124	0.364	0.583
80	0.096	0.192	0.661	0.192	0.826	0.160	0.661	0.026	0.161	0.471	0.753
100	0.116	0.233	0.800	0.233	1.000	0.194	0.800	0.032	0.196	0.572	0.910
200	0.211	0.422	1.423	0.422	1.779	0.351	1.423	0.058	0.354	1.019	1.616
300	0.296	0.592	1.984	0.592	2.480	0.494	1.980	0.082	0.498	1.419	2.250
400	0.376	0.753	2.496	0.753	3.120	0.627	2.490	0.104	0.632	1.789	2.830
500	0.452	0.905	2.976	0.905	3.720	0.754	2.980	0.126	0.760	2.140	3.370
600	0.525	1.050	3.432	1.050	4.290	0.875	3.430	0.147	0.881	2.470	3.880
700	0.593	1.187	3.864	1.187	4.830	0.989	3.870	0.168	0.999	2.780	4.370
800	0.662	1.324	4.280	1.324	5.350	1.104	4.280	0.188	1.113	3.080	4.830
900	0.728	1.456	4.664	1.456	5.830	1.213	4.680	0.208	1.223	3.370	5.280
1000	0.791	1.538	5.064	1.538	6.330	1.319	5.070	0.227	1.330	3.650	5.720
1100	0.854	1.708	5.440	1.708	6.800	1.423	5.440	0.247	1.434	3.920	6.130
1200	0.914	1.829	5.800	1.829	7.250	1.524	5.800	0.266	1.536	4.190	6.540
1300	0.974	1.947	6.152	1.947	7.690	1.623	6.150	0.285	1.636	4.440	6.930
1400	1.031	2.060	6.496	2.060	8.120	1.719	6.490	0.303	1.733	4.690	7.310
1500	1.088	2.180	6.824	2.180	8.530	1.814	6.830	0.322	1.829	4.930	7.680
1600	1.144	2.290	7.152	2.290	8.940	1.907	7.150	0.340	1.923	5.170	8.040
1700	1.199	2.400	7.464	2.400	9.330	1.998	7.460	0.358	2.010	5.400	8.390
1800	1.254	2.510	7.776	2.510	9.720	2.090	7.770	0.378	2.110	5.620	8.730
1900	1.308	2.610	8.072	2.610	10.090	2.180	8.070	0.394	2.190	5.840	9.060
2000	1.356	2.720	8.368	2.720	10.460	2.260	8.370	0.413	2.280	6.060	9.390
2200	1.458	2.920	8.936	2.920	11.170	2.430	8.940	0.448	2.450	6.480	10.020
2400	1.560	3.120	9.480	3.120	11.850	2.600	9.480	0.485	2.620	6.880	10.630
2600	1.656	3.310	10.008	3.310	12.510	2.760	10.010	0.520	2.780	7.270	11.210
2800	1.746	3.490	10.512	3.490	13.140	2.910	10.510	0.556	2.940	7.640	11.760
3000	1.838	3.680	11.000	3.680	13.750	3.060	11.000	0.590	3.090	8.000	12.300

Table 9: Allowable Transmission Torque (Mds)

Pulley Rotational Speed n (rpm)	MA3	MA5	MA8	AT5	AT10	T5	T10	MXL	XL	L	H
0	1.260	2.520	8.888	2.520	11.110	2.100	8.890	0.344	2.130	6.310	10.150
20	1.230	2.460	8.640	2.460	10.800	2.050	8.640	0.339	2.080	6.140	9.860
40	1.200	2.400	8.392	2.400	10.490	2.000	8.390	0.328	2.030	5.970	9.560
60	1.173	2.350	8.136	2.350	10.170	1.955	8.140	0.319	1.976	5.800	9.270
80	1.144	2.290	7.888	2.290	9.860	1.906	7.890	0.311	1.923	5.630	8.980
100	1.114	2.230	7.640	2.230	9.550	1.857	7.640	0.303	1.871	5.460	8.690
200	1.006	2.010	6.800	2.010	8.500	1.677	6.800	0.276	1.690	4.860	7.720
300	0.943	1.887	6.304	1.887	7.880	1.572	6.300	0.260	1.584	4.520	7.150
400	0.898	1.797	5.952	1.797	7.440	1.497	5.950	0.249	1.509	4.270	6.740
500	0.864	1.728	5.680	1.728	7.100	1.440	5.680	0.241	1.451	4.080	6.430
600	0.836	1.671	5.456	1.671	6.820	1.393	5.460	0.234	1.403	3.920	6.180
700	0.811	1.623	5.272	1.623	6.590	1.352	5.270	0.229	1.363	3.790	5.960
800	0.791	1.581	5.112	1.581	6.390	1.318	5.110	0.225	1.328	3.680	5.770
900	0.772	1.545	4.968	1.545	6.210	1.287	4.970	0.221	1.298	3.580	5.610
1000	0.756	1.512	4.840	1.512	6.050	1.260	4.840	0.217	1.270	3.490	5.460
1100	0.741	1.482	4.720	1.482	5.900	1.235	4.720	0.214	1.245	3.410	5.320
1200	0.728	1.456	4.616	1.456	5.770	1.213	4.620	0.211	1.223	3.330	5.200
1300	0.715	1.430	4.520	1.430	5.650	1.192	4.520	0.209	1.202	3.260	5.090
1400	0.704	1.407	4.432	1.407	5.540	1.173	4.430	0.207	1.182	3.200	4.980
1500	0.693	1.386	4.344	1.386	5.430	1.155	4.350	0.205	1.164	3.140	4.890
1600	0.683	1.366	4.264	1.366	5.330	1.138	4.270	0.203	1.148	3.080	4.800
1700	0.673	1.347	4.192	1.347	5.240	1.122	4.190	0.201	1.132	3.030	4.710
1800	0.665	1.329	4.120	1.329	5.150	1.108	4.120	0.200	1.117	2.980	4.630
1900	0.656	1.312	4.056	1.312	5.070	1.094	4.060	0.198	1.103	2.940	4.560
2000	0.648	1.296	3.952	1.296	4.940	1.080	4.000	0.197	1.089	2.890	4.480
2200	0.634	1.267	3.880	1.267	4.850	1.056	3.880	0.195	1.065	2.810	4.350
2400	0.620	1.240	3.776	1.240	4.720	1.033	3.770	0.193	1.042	2.740	4.230
2600	0.607	1.215	3.672	1.215	4.590	1.012	3.680	0.191	1.021	2.670	4.120
2800	0.596	1.192	3.584	1.192	4.480	0.993	3.590	0.190	1.002	2.610	4.010
3000	0.585	1.170	3.504	1.170	4.380	0.975	3.500	0.188	0.984	2.550	3.910

Timing Belt Selection of Synchronous Belt 3

Allowable Tension

Table 10: Joint Processed Belt (Iron Rubber®) Allowable Tension

Unit: N

Type of Belt	Belt Width						
	025	037	050	075	100	150	200
XL	90	135	175	—	—	—	—
L	—	—	320	480	640	—	—
H	—	—	—	480	640	960	1280

Unit: N

Type of Belt	Belt Width					
	100	150	200	250	400	500
T5	150	200	270	350	—	—
T10	—	320	440	640	960	1280
AT5	210	350	—	—	—	—
AT10	—	890	890	1070	—	—

Table 11: Open End Belt (Iron Rubber®) Allowable Tension

Unit: N

Type of Belt	Belt Width						
	025	037	050	075	100	150	200
XL	180	270	350	—	—	—	—
L	—	—	640	960	1280	—	—
H	—	—	—	960	1280	1920	2560

Unit: N

Type of Belt	Belt Width						
	070	100	150	200	250	400	500
MA3	200	300	400	—	—	—	—
MA5	—	470	740	960	—	—	—
MA8	—	—	1620	2160	2700	—	—
T5	200	300	400	550	700	—	—
T10	—	—	640	880	1280	1920	2560
AT5	—	470	740	—	—	—	—
AT10	—	—	1620	2160	2700	—	—

Initial Tension Setup

Determine the Initial Tension based on the maximum tension that occurs during operation.

Initial tension is equal throughout the entire belt loop during non-running or idling states.

There are Tension and Slack sides on belts during operation. The differential of the tension is called Effective Tension.

This differential via the pulleys generates torque or transmission capacity.

For toothed belt applications, apply initial tension not to cause belt sags on the Slack side.

When a sag is evident during the start-up, it indicates that the initial tension is insufficient.

$$U = \frac{2 \times 10^3 \times Md}{dp} \quad \text{Or} \quad U = \frac{19.1 \times 10^6 \times P}{n \times dp}$$

$$\text{Elasticity Guideline} \quad 0.5U < Fv < 0.5F + 0.2F$$

However, if the value resulting from the calculation, "0.5U + 0.2F," exceeds 0.5F, regard "0.5F" as the maximum value.

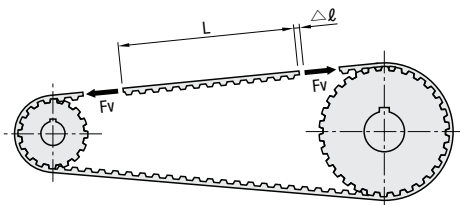
U: Effective Tension (N)
Md: Load Torque (Nm)
P: Transmission Capacity (kW)
dp: Pulley Diameter (mm)
n: Pulley Rotational Speed (rpm)
Fv: Initial Tension (N)
F: Allowable Tension (N)

Method for Checking Initial Tension

Method by Checking Belt Elongation

Belt elongation (guideline) at Allowable Tension F,

Joint Process 0.2% = 2mm/m
Open End 0.4% = 4mm/m



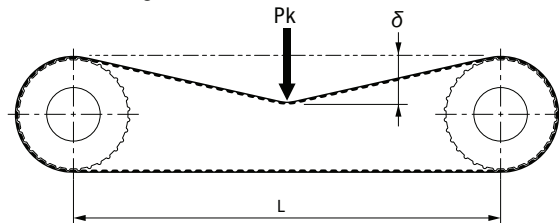
The relationship between force and elongation follows Hooke's Law (In proportional relationship), and the intermediate value can be obtained by calculations.

Method Using Belt Vibrations

$$Fv = 4 \times f^2 \times m \times L^2$$

Fv: Belt Tension (N)
f: Vibration Frequency (Hz)
m: Belt Weight Per 1m (kg/m)
L: Span Length (m)

Method Using Deflection Force and Deflection Amount



$Pk = Fv/16$
Adjust in such a way that deflection meets the following criteria: $[\delta = L/64]$

Pk: Deflection Force (N)
Fv: Desired Tension (N)
 δ : Deflection Amount (mm)
L: Span Length (mm)

Timing Belt Selection of Conveyor Timing Belts

Conveyor belts selection procedure

The following steps for selection are provided by assuming that sizes of head pulley and tail pulley are same. (Follow the steps 1 - 3 even when sizes of head pulley and tail pulley are different)
Use a head pulley as a driving pulley.
For belt installation and tension control, make the structure of the driven side to be adjustable for alignment and center distance with set screws.
*Head Pulley: The front of the pulley against traveling direction
Tail Pulley: The rear end of the pulley against traveling direction

[Step 1] Calculate effective tension (Te).

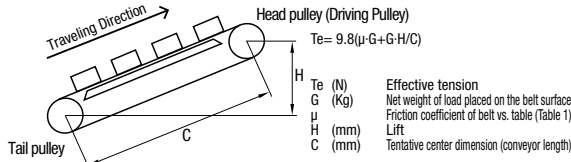


Table 1. Typical Friction Coefficient of Belt versus Table

Table Material	Steel	Stainless	Aluminium	UHMW	Teflon
Friction coefficient: μ	0.65	0.68	0.42	0.31	0.21

[Step 2] Calculate design tension (Td).

$$T_d = K \cdot T_e$$

Td (N) Design Tension
K Overload Coefficient
Te (N) Effective Tension

$$K = K_1 + K_2 + K_3$$

K1 Correction factors for daily operation hours
K2 Belt length correction coefficient
K3 Belt speed correction coefficient

Table 2. K1 Correction Factors for Daily Operation Hours Unit: hour

-5	5-8	8-12	12-16	16-24
1.0	1.1	1.2	1.3	1.4

Table 3. K2 Belt Length Correction Factors Unit: mm

-1500	1501-3000	3001-4500	4501~
0.3	0.2	0.1	0.0

Table 4. K3 Belt Speed Correction Factors Unit: m/min

-60	61-90	91-120
0.0	0.1	0.2

[Step 3] Select belt type, belt width and pulley dimension.

(1) Select from Table 5 a belt type and a width which have a greater allowable tension than the designed tension.

Table 5. Allowable Tension of Joint Belts Unit: N

Belt Type	Belt width (mm)						
	10	15	20	25	30	40	50
S5M	120	180	-	300	-	-	-
S8M	-	235	-	392	471	627	-
T5	58	87	116	145	-	-	-
T10	-	180	240	300	360	481	601
AT5	74	110	-	-	-	-	-
AT10	-	234	312	391	-	-	-

Table 6. Number of Minimum Allowable Number of Teeth for Pulleys

Belt Type	Belt Nominal Width					
	050	075	100	150	200	
L	92	138	184	276	-	
H	-	163	216	324	432	

(2) Select a pulley with a larger number of teeth than the minimum allowable number in Table 6 for both of driving and driven pulley.

Table 6. Number of Minimum Allowable Number of Teeth for Pulleys

Belt Type	L	H	S5M	S8M	T5	T10	AT5	AT10
Pitch (mm)	9.525	12.7	5	8	5	10	5	10
Min. No. of Pulley Teeth	14	14	14	24	12	14	20	14
Pulley Diameter (mm)	42.45	56.60	22.28	61.12	19.10	44.56	31.83	44.56

Reference: Table on Open-end belts Allowable Tension Unit: N

Belt Type	Material	Belt width (mm)							
		6	10	15	20	25	30	40	50
S3M	Polyurethane	127	-	-	-	-	-	-	-
	Rubber	-	310	490	-	-	-	-	-
S5M	Polyurethane	-	215	323	-	539	-	-	-
	Rubber	-	-	-	-	950	-	-	-
S8M	Polyurethane	-	-	647	-	1176	1412	1882	-
	Rubber	-	-	-	-	-	-	-	-
T5	Polyurethane	-	112	166	225	284	-	-	-
T10	Polyurethane	-	-	299	397	529	627	862	1064
AT5	Polyurethane	-	147	221	-	-	-	-	-
AT10	Polyurethane	-	-	469	625	781	-	-	-

⚠ When using belts for other purpose than conveyance (e.g. transmission), for polyurethane belt S3M; design with 1/2 of the allowable tension in the table; for XL, L, H, S5M, S8M, T5 and T10, design with approx. 2/3 of the allowable tension in the table.

[Step 4] Determine belt length (no. of teeth) and center distance.

(1) Obtain approximate belt length from tentative center dimension (C') and approximate pulley diameter (Dp').

$$Lp' = 2 \cdot C' + \pi \cdot Dp'$$

Lp' (mm) Approx. belt length
C' (mm) Tentative center dimension
Dp' (mm) Approx. pulley diameter

(2) Determine the number of teeth required from the approximate belt length (Lp') and pitch (P).
Round down the obtained number of teeth (N) to the nearest whole number.

$$N = Lp' / P$$

N No. of belt teeth
P (mm) Pitch

*Check the minimum teeth of belt which is available.

(3) Obtain the proper belt length from the number of teeth (N) and pitch (P).

$$Lp = P \cdot N$$

Lp (mm) Belt length

(4) Determine proper center distance with the following formula:

$$C = P \cdot (N - Dz) / 2$$

C (mm) Center Distance
Dz No. of teeth of pulley

[Step 5] Confirm the adjustment margin for the center distance is larger than figures in Table 7-a and 7-b.

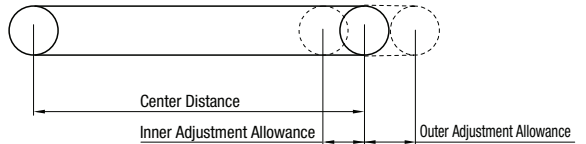


Table 7-a: Inner Adjustment Allowance (Attachment Allowance)

Belt Type	Inner Adjustment Allowance
L	More than 10mm
H	More than 15mm
S5M	More than 10mm
S8M	More than 15mm
T5	More than 5mm
T10	More than 10mm
AT5	More than 10mm
AT10	More than 15mm

Table 7-b: Outer Adjustment Allowance (Tension Allowance)

Distance between shafts (mm)	Outer Adjustment Allowance
~ 500	More than 5mm
501~1000	More than 10mm
1001~1500	More than 15mm
1501~2000	More than 20mm
2001~2500	More than 25mm
2501~	More than 1% of center distance

[Step 6] Install timing belt.

Install the belt with the installation tension in Table 8.
Axis weight at this time is twice the installation tension.

$$Fs = 2 \cdot Ti$$

Fs (N) Shaft load
Ti (N) Fixing Tension (Table 8)

Table 8. Installation Tension for Joint Belts Unit: N

Belt Type	Belt width (mm)						
	10	15	20	25	30	40	50
S5M	60	90	-	150	-	-	-
S8M	-	117	-	196	235	313	-
T5	29	43	58	72	-	-	-
T10	-	90	120	150	180	240	300
AT5	37	55	-	-	-	-	-
AT10	117	156	195	-	-	-	-

Table 8. Installation Tension for Joint Belts Unit: N

Belt Type	Belt Nominal Width				
	050	075	100	150	200
L	46	69	92	138	-
H	-	81	108	162	216

Belt Type	Belt Nominal Width				
	050	075	100	150	200
L	46	69	92	138	-
H	-	81	108	162	216

Timing Belt Synchronous Belt Reference Information

Early failures and countermeasures

Abnormal Phenomena	Cause	Measures
Abnormal Wear of Belt Side Faces	<ul style="list-style-type: none"> Pulley misalignment Pulley shafts misalignments Bent pulley flanges 	<ul style="list-style-type: none"> Realign Correct shaft misalignments Correct bent pulley flanges
Tooth Contact Pressure Surface Abnormal Wear	<ul style="list-style-type: none"> Overload Belt tension too high, too low 	<ul style="list-style-type: none"> Redesign with a wide belt or use larger belt pitch Adjust initial belt tension
Belt abnormal wear on pulley contacting area	<ul style="list-style-type: none"> Pulley tooth shape incorrect Belt tension too high 	<ul style="list-style-type: none"> Adjust initial belt tension Try to recreate belt systems by taking note of tooth tip radius
Broken/missing tooth	<ul style="list-style-type: none"> Pulley diameter too small Small pulley meshing 6 teeth or less Shock loading exists 	<ul style="list-style-type: none"> Redesign Increase small pulley tooth mesh or redesign Avoid shock loading on belt Increase belt width
Severed Core Wire	<ul style="list-style-type: none"> Overload Core wire decreased elasticity or corrosion Induction of foreign matter Excessive temperature 	<ul style="list-style-type: none"> Redesign Check belt storage and shipping history/condition Avoid shocks Provide a belt cover Lower environment temperature
Cracks on Backing Rubber	<ul style="list-style-type: none"> Usage in low temperature Pulley diameter too small 	<ul style="list-style-type: none"> Raise environment temp. Increase pulley diameter
Heat Degradation of Rubber	Rubber degradation due to high environment temperature	Lower environment temperature
Rubber Swelling	<ul style="list-style-type: none"> Contact with oils Contact with water 	<ul style="list-style-type: none"> Avoid oil from contacting Avoid water from contacting
Abnormal Wear of Pulley Teeth	<ul style="list-style-type: none"> Overload Belt tension too high Pulley material too soft 	<ul style="list-style-type: none"> Redesign Adjust initial belt tension Apply surface hardening treatment on pulley or change pulley material
Pulley Circumference Wear	<ul style="list-style-type: none"> Pulley service life has been reached Belt tension too high (core wire visible on belt back side) 	<ul style="list-style-type: none"> Replace with a new pulley Replace with new pulley and belt, and use lower belt tension
Abnormal Sound	<ul style="list-style-type: none"> Belt tension too high Overload Pulley diameter too small Pulley tooth shape incorrect 	<ul style="list-style-type: none"> Realign Adjust initial belt tension Redesign Correct pulley tooth geometry
Apparent Belt Stretch	<ul style="list-style-type: none"> Shaft center distance too small Loose machine base 	<ul style="list-style-type: none"> Adjust to correct shaft distance Reinforce machine base

About Pulley Alignments

Misaligned pulleys may cause early belt failure and flange damages.
Align as show below



•MXL/XL/L/H/S_M/MTS_M/T Series

Belt width (mm)	10	20	30≤
$\tan\theta$	5/1000	3/1000	2/1000

•P_M/UP_M

Belt width (mm)	≤30
$\tan\theta$	5/1000

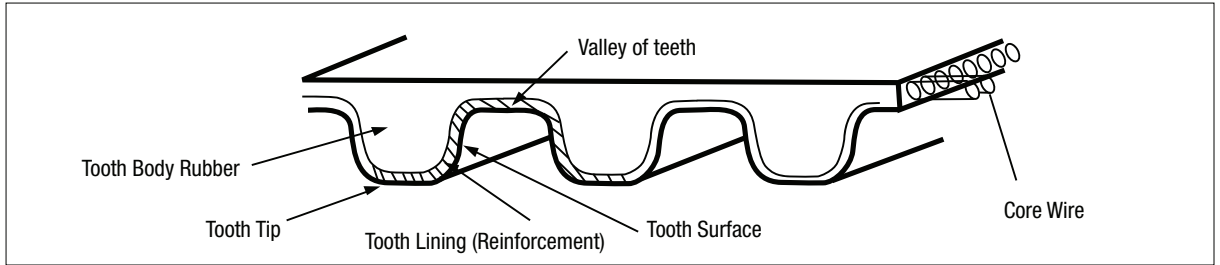
•_GT/EV5GT/EV8YU

Belt width (mm)	≤20	20<40
$\tan\theta$	6/1000	3/1000

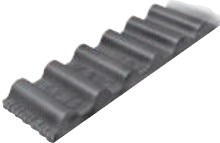





Timing Belt

Synchronous Belt Replacement Signs

Names of Belt Components



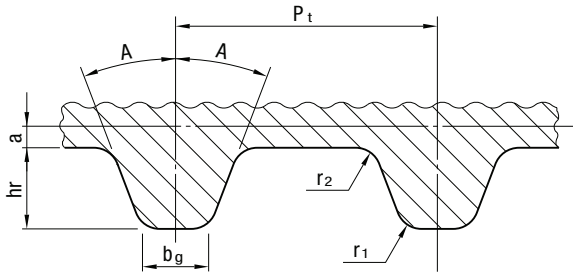
Examples of Belt Replacement Signs

Examples	Condition
1. When belt tooth reinforcement fabric is worn and rubber/core wire are exposed When tooth surface/grooves are worn and rubber/core wire are exposed	
2. When the backing rubber shows cracks due to hardening	
3. When cracks reaching the rubber are seen at tooth base	
4. Belt side faces are damaged due to wear	
5. When missing tooth can be seen	
6. When excessive wear can be seen on belt back side	
7. When belt or core wire are broken	

⚠️ These are belt replacement timing guides. Early or periodical replacements are recommended even the signs shown above are not yet visible.

Timing Belt Toothed Pulleys

1. Cutter Rack Dimensions and Tolerances



The pulley should have involute tooth, which are created and shaped by the cutter. For the cutter rack dimensions and tolerance, when the rack shape of the tooth profile generating cutter is measured by using a projector, shape measuring instrument, etc. the measurement results must meet the following conditions indicated on the table below:

Unit: mm

Type	Number of Teeth of the Pulley Z	Pt	A ±0.12	hr +0.05 0	bg +0.05 0	r ₁ ±0.03	r ₂ ±0.03	2a ⁽¹⁾ (Reference)
MXL	10 ≤ Z ≤ 23	2.032 ± 0.008	28°	0.64	0.61	0.30	0.23	0.508
	24 ≤ Z		20°		0.67			
XL	10 ≤ Z	5.080 ± 0.010	25°	1.40	1.27	0.61	0.61	0.508
L	10 ≤ Z	9.525 ± 0.012	20°	2.13	3.10	0.86	0.53	0.762
H	14 ≤ Z ≤ 19	12.700 ± 0.016	20°	2.59	4.24	1.47	1.04	1.372
	20 ≤ Z						1.42	

Note (1) : a indicates the position equivalent to the pitch line (Centerline of the Core Line of the Belt) of the belt corresponding to the cutter rack shape.

2. Tolerance of Adjacent Pitch Error and Cumulative Pitch Error Unit: mm

Addendum Circle Diameter of Pulley d _o	Allowable Value	
	Tolerance of Adjacent Pitch Error	Accumulated Pitch Error
5.96 ≤ d _o ≤ 25.40	0.03	0.05
25.40 < d _o ≤ 50.80	0.03	0.08
50.80 < d _o ≤ 101.60	0.03	0.10
101.60 < d _o ≤ 177.80	0.05	0.13
177.80 < d _o ≤ 304.80	0.05	0.15
304.80 < d _o ≤ 508.00	0.08	0.18
508.00 < d _o ≤ 762.00	0.08	0.20
762.00 < d _o ≤ 967.16	0.08	0.23

4. Tolerances of Addendum Circle Diameter Unit: mm

Addendum Circle Diameter of Pulley d _o	Tolerance
5.96 ≤ d _o ≤ 25.40	$\begin{matrix} +0.05 \\ 0 \end{matrix}$
25.40 < d _o ≤ 50.80	$\begin{matrix} +0.08 \\ 0 \end{matrix}$
50.80 < d _o ≤ 101.60	$\begin{matrix} +0.10 \\ 0 \end{matrix}$
101.60 < d _o ≤ 177.80	$\begin{matrix} +0.13 \\ 0 \end{matrix}$
177.80 < d _o ≤ 304.80	$\begin{matrix} +0.15 \\ 0 \end{matrix}$
304.80 < d _o ≤ 508.00	$\begin{matrix} +0.18 \\ 0 \end{matrix}$
508.00 < d _o ≤ 762.00	$\begin{matrix} +0.20 \\ 0 \end{matrix}$
762.00 < d _o ≤ 967.16	$\begin{matrix} +0.23 \\ 0 \end{matrix}$

3. Tolerance of Side Deflection Unit: mm

Addendum Circle Diameter of Pulley d _o	Tolerance of Deflection (TIR) ⁽²⁾
5.96 ≤ d _o ≤ 101.60	0.10
101.60 < d _o ≤ 254.00	Addendum Circle Dia. d _o × 0.001
254.00 < d _o ≤ 967.16	0.25 + [(Addendum Circle Dia. d _o - 254.00) × 0.0005]

Note (2) : TIR is an abbreviation for Total Indicator Reading and refers to the difference between the max. deflection reading and the min. deflection reading.

5. Tolerance of Circumferential Deflection of Addendum Circle Unit: mm

Addendum Circle Diameter of Pulley d _o	Tolerance of Circumferential Deflection
5.96 ≤ d _o ≤ 203.20	0.13
203.20 < d _o ≤ 967.16	0.13 + [(Addendum Circle Dia. d _o - 203.20) × 0.0005]

6. Tolerance of Cylindricity and Parallelism Unit: mm

Nominal Widths of Pulley	Cylindricity Tolerance	Parallelism Tolerance
025~050	0.01	0.03
075~150	0.02	
200 · 300	0.04	0.04
400 · 500	0.06	0.05