[Technical Data]
Selection of Transmission Timing Belts 1

Selection is easy with Timing Pulleys and Belts automatic calculation tool available at:
http://fawos.misumi.jp/FA_WEB/pulley_sea/

[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=m×α
Pt=TexV/1000
Pd=PtxKs

Te : Effective Tension (N)
m : Mass (g)
α : Acceleration (m/sec^2)
V : Belt Speed (m/sec)
Pt : Transmission Power (KW)
Pd : Design Power (kW)
Ks : Overload Factor

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) DC Motor (Shunt), Engine with 2 or More Cylinders			Special Motor (High torque), Single-Cylinder Engine DC Motor (Series), Operation with Lye Shaft or Clutch		
	Operation Hours			Operation Hours		
	Intermittent use 1 Day 3 to 5 hrs	Regular Use 1 Day 8 to 12 hrs	Continuous Use 1 Day 8 to 12 hrs	Intermittent use 1 Day 3 to 5 hrs	Regular Use 1 Day 8 to 12 hrs	Continuous Use 1 Day 8 to 12 hrs
Exhibit Instrument, Projector, Measuring Instrument, Medical Machine	1.0	1.2	1.4	1.2	1.4	1.6
Cleaner, Sewing Machine, Office Machine, Carpentry Lathe, Belt Sawing Machine	1.2	1.4	1.6	1.4	1.6	1.8
Light Load Belt Conveyor, Packer, Sifter	1.3	1.5	1.7	1.5	1.7	1.9
Liquid Mixer, Drill Press, Lathe, Screw Machine, (Circular Sawing) Machine, Planer, Washing Machine, Paper Manufacturing Machine (Excluding Pulp Manufacturing Machine), Printing Machine	1.4	1.6	1.8	1.6	1.8	2.0
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)	1.5	1.7	1.9	1.7	1.9	2.1
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)	1.6	1.8	2.0	1.8	2.0	2.2
Centrifugal Separator, Conveyor (Feed and Screw), Hammer Mill, Paper Manufacturing Machine (Pulpapitor)	1.7	1.9	2.1	1.9	2.1	2.3

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 Power ……For 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 (Peak Output/Basic Output)				Ⅰ 200% or Less	Ⅱ 200 to 300	Ⅲ 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

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

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

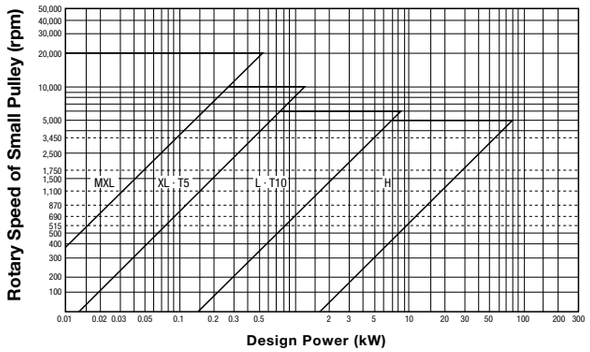


Table 20. Selection Guide Table 2 (S_M series)

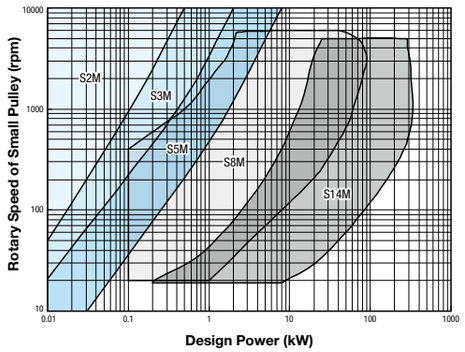


Table 21. Selection Guide Table 3 (P_M series)

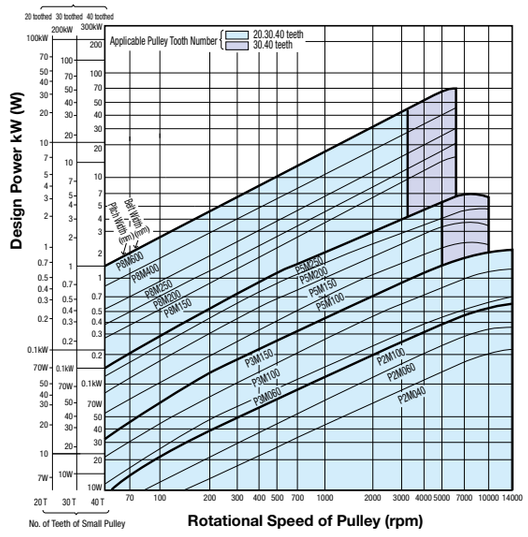


Table 22. Selection Guide Table 4 (MTS8M)

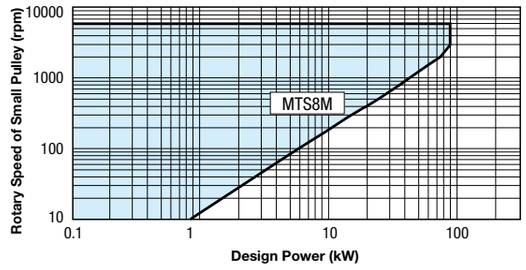


Table 23. Selection Guide Table 5 (UP_M series)

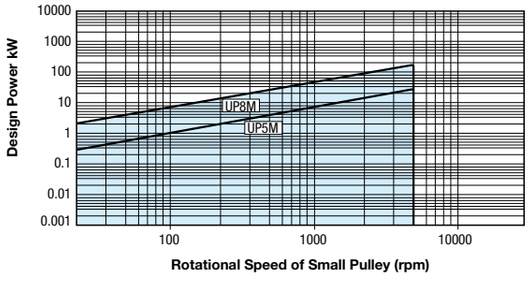


Table 24. Selection Guide Table (2GT·3GT series)

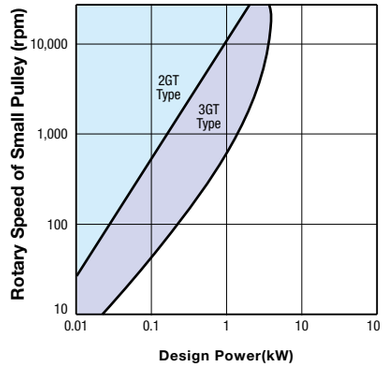
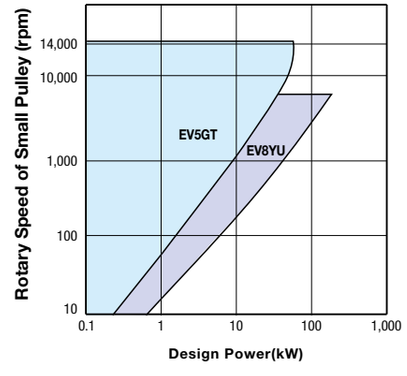


Table 25. Selection Guide Table (EV5GT·EV8YU series)



[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.2261~2271**, which can satisfy the predeterminated 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 Small Pulley (mm)
Dp : Pitch Diameter of Large Pulley (mm)
Lp' : Approx. Belt Circum. Length (mm)

(3) Determine a belt circum. length (Lp') that is the nearest value to approx. belt circum. length referring to **P.1459~1470**, and then calculate the correct inter-shaft distance using the following formula.

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

$$b = 2Lp - \pi(Dp+dp)$$

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

[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.2261~2271.**
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	-	-

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

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

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

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

(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
■2GT · 3GT · EV5GT · EV8YU
· Pd<Ps · Km · Kb · KL

Pd : Design Power
Ps : Reference Transmission Capacity
Km : Engagement Correction Coefficient
Kb : Width Correction Coefficient (Table 29)
KL : Length Correction Coefficient (Table 30)

Table 29. Width Correction Coefficient (Kb)

Type of Belt	Belt Width Nominal	Belt Width mm	Width Correction Coefficient Kb
MXL	019	4.8	0.72
	025	6.4	1.00
	037	9.5	1.57
	050	12.7	2.18
XL	025	6.4	0.15
	031	7.9	0.21
	037	9.5	0.28
	050	12.7	0.42
L	050	12.7	0.42
	075	19.1	0.71
	100	25.4	1.00
	150	38.1	1.56
H	075	19.1	0.71
	100	25.4	1.00
	150	38.1	1.56
	200	50.8	2.14

Type of Belt	Belt Width Nominal	Belt Width mm	Width Correction Coefficient Kb
S2M	040	4	1.00
	060	6	1.59
	100	10	2.84
S3M	060	6	1.00
	100	10	1.79
	150	15	2.84
S5M	100	10	1.00
	150	15	1.59
	250	25	2.84
S8M MTS8M	150	15	0.21
	250	25	0.37
	300	30	0.45
	400	40	0.63
S14M	400	40	0.29
	600	60	0.45

Type of Belt	Belt Width Nominal	Belt Width mm	Width Correction Coefficient Kb
P2M	040	4	1.00
	060	6	1.59
P3M	100	10	1.78
	150	15	2.84
P5M	100	10	1.00
	150	15	1.59
P8M	150	15	1.00
	250	25	1.79
T5	100	10	1.00
	150	15	1.60
	200	20	2.30
	250	25	2.90
T10	150	15	1.60
	200	20	2.30
	250	25	2.90
	300	30	3.50
	400	40	4.60
	500	50	5.80

Type of Belt	Belt Width Nominal	Belt Width mm	Width Correction Coefficient Kb
2GT	4	4	1.00
	6	6	1.67
	9	9	2.67
3GT	6	6	1.00
	9	9	1.66
	15	15	2.97
EV5GT	9	9	0.53
	12	12	0.76
	15	15	1.00
EV8YU	15	15	0.71
	20	20	1.00
	25	25	1.29

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	1001 or less
EV8YU Belt Length(mm)	600 or less	601~900	901~1250	1251~1799	1800 or less

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

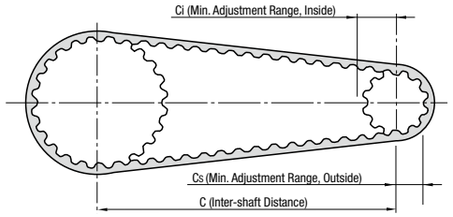


Table 31 Minimum Inter-Axial Distance Adjustment Range

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		5		5
380 to 500	±0.51	±0.26		10		10		10		10		2		3		3		3		3		10		10
500 to 750	±0.60	±0.30		10		10		10		10		3		5		3		5		5		10		10
750 to 1000	±0.66	±0.33	3	15	5	15	10	15	15	15	10	3	15	5	15	5	10	5	15	5	5	15	10	15
1000 to 1250	±0.76	±0.38		15		15		15		15		5		10		5		10		10		15		15
1250 to 1500	±0.82	±0.41		25		25		25		25		5		10		10		10		10		25		25
1500 to 1750	±0.86	±0.43		25		25		25		25		5		10		10		10		10		25		25
1750 to 2000	±0.92	±0.46		30		30		30		30		5		10		10		10		10		30		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	± 0.20		3		3		3		3
Over 250	380 or Less	± 0.46	± 0.23		3		3		3		3
Over 380	500 or Less	± 0.50	± 0.25		3		3		3		3
Over 500	750 or Less	± 0.60	± 0.30	4	5	5	5	10	5	20	5
Over 750	1000 or Less	± 0.66	± 0.33		5		5		5		5
Over 1000	1250 or Less	± 0.76	± 0.38		10		10		10		10
Over 1250	1500 or Less	± 0.82	± 0.41		10		10		10		10
Over 1500	1750 or Less	± 0.86	± 0.43		10		10		10		10
Over 1750	2000 or Less	± 0.92	± 0.46		10		10		10		10

■Precautions on Operation

1. 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.
2. 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.
3. Do not use the belt in a humid atmosphere.
4. Please use a well-ventilated safety cover.
5. The service life of the belt, when used at a high temperature (80℃ or more), can be drastically shortened.

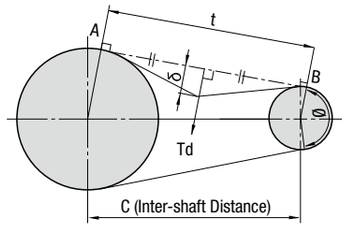
‹Reference›**Belt Width Tolerance** (Unit: mm)

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.



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

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

Ti : Initial Tension N — From Table 31
Y : Correction Coefficient — From Table 31
δ : Deflection (mm) — δ=0.016t
t : Span Length (mm) — $t = \sqrt{C^2 - \frac{(Dp-dp)^2}{4}}$
Lp : Length of the Belt (mm)
C : Inter-shaft Distance (mm)
dp : Diameter of the Pitch Circle of the Small Pulley (mm)
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 / 4.8	025 / 6.4	031 / 7.9	037 / 9.5	050 / 12.7	075 / 19.1	100 / 25.4	150 / 38.1	200 / 50.8
MXL	Ti (N)	Max. Value		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 / 6	100 / 10	150 / 15	250 / 25
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 / 4	60 / 6	100 / 10	150 / 15	250 / 25	300 / 30	400 / 40	600 / 60
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 / 10	150 / 15	200 / 20	250 / 25	300 / 30	400 / 40	500 / 50
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 / 4	6 / 6	9 / 9	12 / 12	15 / 15	20 / 20	25 / 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			–	–	–	–	–	–	–

Selection of Transmission Timing Belts 5

-Transmission Capacity Table-

Selection is easy with Timing Pulleys and Belts automatic calculation tool available at:
http://fawos.misumi.jp/FA_WEB/pulley_sea/

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

No. of Teeth of Small Pulley	12	14	15	16	18	20	22	24	25	26	28	30	32	36	40
Rotary Speed of Small Pulley(rpm) / Diameter of the Pitch Circle(mm)	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)

No. of Teeth of Small Pulley	10	11	12	14	15	16	18	19	20	21	22	24	25	26	28	30
Rotary Speed of Small Pulley(rpm) / Diameter of the Pitch Circle(mm)	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	0.02	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	0.08	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	0.12	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	0.17	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	1.04	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	1.78
4200					0.96	1.02	1.14	1.21	1.27	1.33	1.39	1.51	1.57	1.63	1.74	1.86
4400					1.00	1.07	1.20	1.26	1.33	1.39	1.45	1.58	1.64	1.70	1.82	1.94
4600					1.05	1.12	1.25	1.32	1.38	1.45	1.52	1.64	1.71	1.77	1.90	2.02
4800					1.09	1.16	1.30	1.37	1.44	1.51	1.58	1.71	1.78	1.84	1.97	2.10

* Endurance time will be reduced in [ ] marked area. Please avoid if possible.
* 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 35. Reference Transmission Capacity of L Ps -Nominal Width of Belts 100 (25.4mm)- (kW)

No. of Teeth of Small Pulley	12	14	15	16	18	19	20	21	22	24	25	26	28	30	32	36	40	48
Rotary Speed of Small Pulley(rpm) / Diameter of the Pitch Circle(mm)	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	1.33
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	1.59
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	1.73
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
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
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	3.02
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
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	0.23	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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					2.52	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	3.38	3.49	3.59	3.80	3.98	4.15	4.43	4.62	4.72
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
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
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
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

* 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)

No. of Teeth of Small Pulley	14	15	16	18	19	20	21	22	24	25	26	28	30	32	36	40	48
Rotary Speed of Small Pulley(rpm) / Diameter of the Pitch Circle(mm)	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
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
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
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
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
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
2850						7.27	7.61	7.95	8.61	8.93	9.25	9.87	10.48	11.06	12.16	13.15	14.80
3450						8.68	9.07	9.45	10.19	10.55	10.91	11.59	12.24	12.85	13.95	14.87	16.09
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
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
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
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
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
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
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
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
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
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
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
1200			2.52	2.83	2.99	3.14	3.30	3.45	3.76	3.92	4.07	4.38	4.68	4.99	5.59	6.18	7.35
1300				3.06	3.23	3.40	3.57	3.74	4.07	4.24	4.40	4.73	5.06	5.39	6.03	6.67	7.91
1400				3.30	3.48	3.66	3.84	4.02	4.38	4.55	4.73	5.09	5.44	5.79	6.48	7.16	8.47
1500				3.53	3.72	3.92	4.11	4.30	4.68	4.87	5.06	5.44	5,81	6.18	6.91	7.63	9.01
1600				3.76	3.97	4.17	4.38	4.58	4.99	5.19	5.39	5.79	6.18	6.57	7.35	8.10	9.55
1700				3.99	4.21	4.43	4.64	4.86	5.29	5.50	5.71	6.13	6.55	6.96	7.77	8.56	10.07
1800				4.22	4.45	4.68	4.91	5.14	5.59	5.81	6.03	6.48	6.91	7.35	8.19	9.01	10.57
1900						4.93	5.17	5.41	5.89	6.12	6.35	6.82	7.27	7.73	8.61	9.46	11.06
2000						5.19	5.44	5.69	6.18	6.43	6.67	7.16	7.63	8.10	9.01	9.89	11.53
2100						5.44	5.70	5.96	6.48	6.73	6.99	7.49	7.98	8.47	9.41	10.32	11.99
2200						5.69	5.96	6.23	6.77	7.03	7.30	7.82	8.33	8.83	9.81	10.73	12.43
2300						5.94	6.22	6.50	7.06	7.33	7.61	8.15	8.68	9.19	10.19	11.14	12.85
2400						6.18	6.48	6.77	7.35	7.63	7.91	8.47	9.01	9.55	10.57	11.53	13.25
2500						6.43	6.73	7.03	7.63	7.93	8.22	8.79	9.35	9.89	10.94	11.91	13.63
2600						6.67	6.99	7.30	7.91	8.22	8.52	9.10	9.68	10.24	11.30	12.28	13.99
2800						7.16	7.49	7.82	8.47	8.79	9.10	9.72	10.32	10.90	11.99	12.99	14.65
3000						7.63	7.98	8.33	9.01	9.35	9.68	10.32	10.94	11.53	12.64	13.63	15.21
3200						8.10	8.47	8.83	9.55	9.89	10.24	10.90	11.53	12.14	13.25	14.22	15.67
3400						8.56	8.95	9.33	10.07	10.42	10.78	11.45	12.10	12.71	13.81	14.75	16.02
3600						9.01	9.41	9.81	10.57	10.94	11.30	11.99	12.64	13.25	14.33	15.21	16.26
3800								10.28	11.06	11.44	11.80	12.50	13.15	13.75	14.80	15.60	16.38
4000								10.73	11.53	11.91	12.28	12.99	13.63	14.22	15.21	15.92	16.37
4200								11.18	11.99	12.37	12.75	13.44	14.08	14.65	15.56	16.16	16.23
4400								11.61	12.43	12.81	13.19	13.87	14.49	15.03	15.86	16.31	15.94
4600								12.03	12.85	13.23	13.60	14.28	14.87	15.37	16.09	16.39	15.51
4800								12.43	13.25	13.63	13.99	14.65	15.21	15.67	16.26	16.37	14.93

* 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.

Selection of Transmission Timing Belts 6

-Transmission Capacity Table-

Selection is easy with Timing Pulleys and Belts automatic calculation tool available at:
http://fawos.misumi.jp/FA_WEB/pulley/

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

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

* Endurance time will be reduced in [dashed box] 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)

No. of Teeth of Small Pulley	14	15	16	18	20	22	24	25	26	28	30	32	36	40	44	48	50	60
Rotary Speed of Small Pulley(rpm) / Diameter of the Pitch Circle(mm)	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	53	58	62	73	79	87	95	99	103	110	118	125	140	155	169	182	188	222
1160	67	72	78	92	99	110	119	124	129	139	148	158	176	194	212	229	238	279
1750	92	100	107	128	137	151	165	171	178	192	205	218	243	268	291	315	326	381
3500	154	167	180	215	230	255	277	289	300	322	344	365	407	446	484	521	539	624
50	5	5	6	7	7	8	8	9	9	10	11	11	13	14	15	17	17	20
100	9	9	10	12	13	14	15	16	17	18	19	21	23	25	28	30	31	37
150	12	13	14	17	18	20	22	23	24	26	27	29	33	36	39	43	44	52
200	16	17	18	22	23	26	28	29	30	33	35	37	42	46	50	54	56	67
250	19	21	22	26	28	31	34	35	37	39	42	45	50	55	61	66	68	80
300	22	24	26	31	33	36	39	41	43	46	49	52	58	65	71	76	79	94
350	25	27	29	35	37	41	45	47	49	52	56	59	66	73	80	87	90	106
400	28	31	33	39	42	46	50	52	54	58	62	66	74	82	90	97	101	119
450	31	34	36	43	46	51	55	58	60	64	69	73	82	90	99	107	111	131
500	34	37	39	47	50	55	60	63	65	70	75	80	89	99	108	117	121	143
550	37	40	43	51	54	60	65	68	71	76	81	86	97	107	116	126	131	154
600	39	43	46	54	58	64	70	73	76	82	87	93	104	114	125	135	140	165
650	42	46	49	58	62	69	75	78	81	87	93	99	111	122	133	144	150	176
700	45	48	52	62	66	73	79	83	86	92	99	105	118	130	142	153	159	187
750	47	51	55	65	70	77	84	87	91	98	105	111	124	137	150	162	168	198
800	50	54	58	69	73	81	89	92	96	103	110	117	131	145	158	171	177	208
850	52	57	61	72	77	86	93	97	101	108	116	123	138	152	166	179	186	218
900	55	59	64	76	81	90	97	101	105	113	121	129	144	159	173	187	194	228
950	57	62	66	79	84	94	102	106	110	118	127	135	150	166	181	196	203	238
1000	60	64	69	82	88	97	106	110	115	123	132	140	157	173	188	204	211	248
1100	64	69	75	89	95	105	114	119	124	133	142	151	169	186	203	220	228	267
1200	69	74	80	95	102	113	122	128	133	143	152	162	181	200	218	235	244	286
1300	73	79	85	101	108	120	130	136	141	152	162	173	193	213	232	250	260	304
1400	78	84	90	107	115	127	138	144	150	161	172	183	204	225	245	265	275	322
1500	82	89	95	113	121	134	146	152	158	170	182	193	216	238	259	280	290	340
1600	86	93	100	119	127	141	154	160	166	179	191	203	227	250	272	294	305	357
1700	90	98	105	125	134	148	161	168	174	187	200	213	238	262	285	308	319	373
1800	94	102	110	130	140	155	168	175	182	196	209	222	248	273	298	322	333	390
1900	98	106	114	136	146	161	175	183	190	204	218	232	259	285	310	335	347	406
2000	102	110	119	141	151	168	182	190	198	212	227	241	269	296	322	348	361	421
2200	110	119	128	152	163	180	196	204	212	228	244	259	289	318	346	374	387	452
2400	117	127	136	162	174	193	210	218	227	244	261	277	309	340	369	398	413	481
2600	124	135	145	173	185	205	223	232	241	259	277	294	328	360	392	422	437	509
2800	131	142	153	182	195	216	235	245	255	274	292	311	346	380	413	446	461	536
3000	138	150	161	192	205	228	248	258	268	288	308	327	364	400	435	468	484	562
3200	145	157	169	201	216	239	260	270	281	302	322	342	381	419	455	490	507	588
3400	151	164	177	210	225	250	272	283	294	316	337	358	398	437	475	511	528	612
3600	157	171	184	219	235	260	283	295	306	329	351	373	415	455	494	531	549	635
3800	164	177	191	228	244	271	294	306	318	342	365	387	431	473	513	551	570	658
4000	170	184	198	237	253	281	305	318	330	355	378	402	447	490	531	570	590	679
4500	184	200	216	257	275	305	332	345	359	385	411	436	484	530	574	616	636	729
5000	198	215	232	277	297	329	357	372	386	414	442	468	520	568	614	658	679	774
5500	211	230	248	296	317	351	381	396	412	442	471	499	553	603	651	696	717	813
6000	224	243	263	313	336	372	404	420	436	468	498	528	584	636	685	731	753	848
6500	236	256	277	331	354	392	426	443	460	492	524	555	613	667	717	763	784	876
7000	247	269	291	347	371	411	446	464	482	516	549	580	640	695	745	791	812	900
7500	259	281	304	363	388	430	466	485	503	538	572	604	665	721	771	816	836	917
8000	269	293	316	378	404	447	485	504	523	559	594	627	688	744	793	837	856	929
8500	279	304	328	392	419	464	503	522	542	579	614	648	710	765	813	855	873	935
9000	289	315	340	406	434	480	520	540	559	597	633	667	729	784	830	869	885	935

* Endurance time will be reduced in [dashed box] marked area. Please avoid if possible.
* Values in the table above are for 6mm belt width. For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

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

No. of Teeth of Small Pulley	14	15	16	18	20	22	24	25	26	28	30	32	36	40	44	48	60
Rotary Speed of Small Pulley(rpm) / 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	1286	1587
3500	475	534	592	705	816	923	1029	1080	1131	1231	1330	1425	1611	1787	1955	2115	2544
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	428	532
500	112	123	135	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	632	696	759	941
950	185	205	225	264	303	341	378	396	415	451	487	522	592	660	727	793	983
1000	193	214	234	275	315	355	394	413	432	470	507	544	617	688	758	826	1025
1100	207	230	252	297	340	383	425	446	466	507	548	588	666	743	818	892	1106
1200	221	246	270	318	364	410	456	478	500	544	588	630	715	797	877	956	1185
1300	235	261	287	338	388	437	485	509	533	580	626	672	762	849	935	1019	1262
1400	248	276	304	358	411	463	515	540	565	615	664	713	808	901	992	1081	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	571	600	628	683	738	792	898	1001	1102	1200	1483
1700	287	319	352	415	478	539	599	629	658	716	774	830	941	1049	1155	1258	1553
1800	299	333	367	434	499	563	626	657	688	749	809	868	984	1097	1207	1314	1621
1900	311	347	382	452	520	587	653	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	1308	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	780	819	858	934	1009	1082	1226	1365	1500	1630	1998
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	1445	1606	1761	1910	2319
3200	448	502	556	662	765	866	965	1013	1061	1155	1247	1338	1513	1680	1841	1995	2414
3400	466	524	580	691	799	904	1008	1058	1108	1206	1303	1397	1579	1752	1918	2076	2502
3600	484	544	603	719	832	942	1049	1102	1154	1256	1356	1454	1642	1821	1992	2153	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	558	629	699	837	970	1098	1224	1285	1345	1463	1578	1689	1901	2098	2282	2452	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	910	1096	1272	1440	1600	1677	1752	1895	2029	2154	2378	2563	2709	2812	2841
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	2427
8500	783	894	1001	1208	1402	1583	1752	1831	1908	2050	2179	2294	2479	2602	2658	2643	2122
9000	801	915	1026	1239	1436	1620	1790	1869	1944	2084	2208	2315	2479	2570	2583	2513	1745

* Endurance time will be reduced in [dashed box] marked area. Please avoid if possible.
* [solid box] 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)

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
Rotary Speed of Small Pulley(rpm) / 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	15.34	15.97	16.61	17.86	19.12	20.37	21.62	22.86	24.10	25.33	27.78	30.20	31.40	37.29	44.09	50.52
3500	25.33	26.56	27.78	30.20	31.40	32.59	34.96	37.29	39.60	41.86	44.09	46.28	48.42	52.57	56.62	58.42	67.02	75.09	80.26
50	0.37	0.39	0.40	0.44	0.46	0.48	0.51	0.55	0.59	0.62	0.66	0.70	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
200	1.47	1.54	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
300	2.20	2.31	2.42	2.64	2.75	2.86	3.08	3.30	3.52	3.74	3.96	4.18	4.40	4.84	5.28	5.50	6.60	7.92	9.24
400	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
500	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
600	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
700	5.14	5.39	5.65	6.16	6.42	6.68	7.19	7.70	8.21	8.72	9.24	9.75	10.26	11.28	12.30	12.80	15.34	18.37	21.37
800	5.87	6.16	6.46	7.04	7.34	7.63	8.21	8.80	9.38	9.97	10.55	11.13	11.71	12.88	14.04	14.62	17.51	20.94	24.34
900	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	19.66	23.50	27.29
1000	7.34	7.70	8.07	8.80	9.16	9.53	10.26	10.99	11.72	12.44	13.17	13.89	14.62	16.06	17.51	18.22	21.80	26.03	30.20
1100	8.07	8.47	8.87	9.67	10.08	10.48	11.28	12.08	12.88	13.68	14.47	15.27	16.08	17.65	19.23	20.01	23.92	28.54	33.07
1200	8.80	9.24	9.67	10.55	10.99	11.42	12.30	13.17	14.04	14.91	15.77	16.64	17.51	19.23	20.94	21.80	26.03	31.02	35.90
1300	9.53	10.00	10.48	11.42	11.90	12.37	13.31	14.26	15.20	16.14	17.07	18.01	18.94	20.80	22.65	23.57	28.12	33.48	38.68
1400	10.26	10.77	11.28	12.30	12.80	13.31	14.33	15.34	16.35	17.36	18.37	19.37	20.37	22.37	24.35	25.33	30.20	35.90	41.41
1500	10.99	11.53	12.08	13.17	13.71	14.26	15.34	16.42	17.51	18.58	19.66	20.73	21.80	23.92	26.03	27.08	32.25	38.29	44.09
1600	11.71	12.30	12.88	14.04	14.62	15.20	16.35	17.50	18.66	19.80	20.94	22.08	23.22	25.47	27.71	28.82	34.29	40.64	46.71
1700	12.44	13.06	13.68	14.91	15.52	16.14	17.36	18.58	19.80	21.01	22.22	23.43	24.63	27.01	29.37	30.54	36.30	42.95	49.26
1800	13.17	13.82	14.47	15.78	16.42	17.07	18.37	19.66	20.94	22.22	23.50	24.77	26.03	28.54	31.02	32.25	38.29	45.22	51.75
1900	13.89	14.58	15.27	16.64	17.32	18.01	19.37	20.73	22.08	23.43	24.77	26.10	27.43	30.06	32.66	33.95	40.25	47.44	54.17
2000	14.62	15.34	16.06	17.51	18.22	18.94	20.37	21.80	23.22	24.63	26.03	27.43	28.82	31.57	34.29	35.63	42.18	49.62	56.52
2100	15.34	16.10	16.86	18.37	19.12	19.87	21.37	22.86	24.35	25.82	27.29	28.75	30.20	33.07	35.90	37.29	44.09	51.75	58.79
2200	16.06	16.86	17.65	19.23	20.01	20.80	22.36	23.92	25.47	27.01	28.54	30.06	31.57	34.56	37.49	38.94	45.96	53.83	60.98
2300	16.79	17.61	18.44	20.09	20.91	21.73	23.36	24.98	26.59	28.19	29.78	31.37	32.93	36.03	39.07	40.57	47.81	55.86	63.08
2400	17.51	18.37	19.23	20.94	21.80	22.65	24.34	26.03	27.71	29.37	31.02	32.66	34.29	37.49	40.64	42.18	49.62	57.83	65.10
2500	18.22	19.12	20.01	21.80	22.68	23.57	25.33	27.08	28.82	30.54	32.25	33.95	35.63	38.94	42.18	43.77	51.40	59.74	67.02
2600	18.94	19.87	20.80	22.65	23.57	24.49	26.31	28.12	29.92	31.71	33.48	35.23	36.96	40.38	43.71	45.34	53.15	61.59	68.84
2700	19.66	20.62	21.58	23.50	24.45	25.40	27.29	29.16	31.02	32.87	34.69	36.50	38.29	41.80	45.22	46.89	54.85	63.38	70.57
2800	20.37	21.37	22.36	24.35	25.33	26.31	28.26	30.20	32.12	34.02	35.90	37.76	39.60	43.20	46.71	48.42	56.52	65.10	72.19
2900	21.09	22.12	23.14	25.19	26.21	27.22	29.23	31.23	33.21	35.16	37.09	39.01	40.89	44.59	48.17	49.92	58.15	66.75	73.70
3000	21.80	22.86	23.92	26.03	27.08	28.13	30.20	32.25	34.29	36.30	38.28	40.25	42.18	45.97	49.62	51.40	59.74	68.33	75.09
3100	22.51	23.61	24.70	26.87	27.95	29.03	31.16	33.27	35.36	37.43	39.46	41.48	43.46	47.32	51.05	52.86	61.29	69.84	76.38
3200	23.22	24.35	25.47	27.71	28.82	29.92	32.12	34.29	36.43	38.55	40.63	42.69	44.72	48.66	52.45	54.29	62.79	71.27	77.54
3300	23.92	25.09	26.24	28.54	29.68	30.82	33.07	35.29	37.49	39.66	41.79	43.90	45.96	49.98	53.83	55.69	64.25	72.63	78.57
3400	24.63	25.82	27.01	29.37	30.54	31.71	34.02	36.30	38.55	40.76	42.95	45.09	47.20	51.29	55.19	57.07	65.66	73.90	79.48
3600	26.03	27.29	28.54	31.03	32.25	33.48	35.90	38.28	40.64	42.95	45.22	47.44	49.62	53.84	57.83	59.74	68.33	76.20	80.90
3700	26.73	28.02	29.30	31.85	33.10	34.36	36.83	39.27	41.67	44.02	46.33	48.60	50.81	55.08	59.11	61.03	69.60	77.22	81.41
3800	27.43	28.75	30.06	32.66	33.95	35.23	37.76	40.24	42.69	45.09	47.44	49.74	51.99	56.30	60.36	62.29	70.81	78.15	81.77
3900	28.12	29.48	30.82	33.48	34.79	36.10	38.68	41.21	43.71	46.15	48.54	50.87	53.15	57.51	61.59	63.52	71.96	78.98	81.98
4000	28.82	30.20	31.57	34.29	35.63	36.96	39.59	42.18	44.72	47.20	49.62	51.99	54.29	58.69	62.79	64.72	73.06	79.72	82.04
4200	30.20	31.64	33.07	35.90	37.29	38.68	41.41	44.09	46.71	49.26	51.75	54.18	56.52	60.98	65.10	67.02	75.09	80.90	
4400	31.57	33.07	34.56	37.50	38.94	40.38	43.20	45.96	48.66	51.28	53.83	56.30	58.69	63.18	67.29	69.18	76.89	81.68	
4600	32.93	34.49	36.03	39.08	40.57	42.05	44.97	47.81	50.58	53.26	55.86	58.37	60.78	65.29	69.35	71.20	78.43	82.02	
4800	34.29	35.90	37.49	40.64	42.18	43.71	46.71	49.62	52.45	55.19	57.83	60.37	62.79	67.29	71.27	73.06	79.72	81.92	
5000	35.63	37.30	38.94	42.18	43.77	45.34	48.42	51.40	54.29	57.07	59.74	62.30	64.72	69.18	73.06	74.77	80.74	81.34	
5200	36.96	38.68	40.37	43.71	45.34	46.95	50.10	53.14	56.08	58.90	61.59	64.15	66.57	70.96	74.71	76.32	81.47		
5400	38.29	40.05	41.79	45.22	46.89	48.54	51.75	54.85	57.83	60.67	63.38	65.94	68.33	72.63	76.20	77.69	81.91		
5600	39.60	41.41	43.20	46.71	48.42	50.10	53.37	56.52	59.53	62.39	65.10	67.64	70.00	74.18	77.54	78.89	82.04		
5800	40.89	42.76	44.59	48.18	49.92	51.64	54.96	58.15	61.19	64.05	66.75	69.27	71.58	75.60	78.71	79.91			
6000	42.18	44.09	45.96	49.63	51.40	53.15	56.52	59.74	62.79	65.66	68.33	70.81	73.06	76.89	79.72	80.73			

* Endurance time will be reduced in [dashed box] marked area. Please avoid if possible.
* [solid box] 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 60mm belt width. For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

Selection is easy with Timing Pulleys and Belts automatic calculation tool available at:
http://fawos.misumi.jp/FA_WEB/pulley/

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

Rotary Speed of Small Pulley(rpm) \ Number of Teeth of the Pulley / Pitch Dia. (mm)	28	30	32	34	36	40	42	44	48	50	56	60	64	72	84
	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
575	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	81.10	93.92
690	38.45	41.17	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
870	48.35	51.75	55.14	58.52	61.88	68.57	71.90	75.20	81.77	85.03	94.68	101.02	107.27	119.49	136.99
1160	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
1750	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
3450	172.13	181.10	189.39	196.95	203.72	214.76	218.93	222.13	225.47						
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	43.72	47.64	49.60	55.45	59.33	63.20	70.87	82.22
600	33.47	35.84	38.21	40.58	42.94	47.64	49.99	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	58.17	60.88	66.27	68.96	76.95	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	104.98	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	225.62
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	225.62			
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	225.62				
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	222.94	225.62						
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	222.21	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	225.62								
4100	194.30	202.60	209.75	215.68	220.30	225.30									
4200	197.26	205.36	212.22	217.76	221.89	225.62									
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 dymanic 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)

Rotary Speed of Small Pulley(rpm) \ Number of Teeth of the Pulley / Pitch Dia. (mm)	24	26	28	30	32	34	36	38	40	42	44	46	48	50	60	72	84
	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
50	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
100	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
200	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
300	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
400	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
500	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
600	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
700	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
800	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
900	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
1000	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	42.03	48.25	54.09
1100	19.57	21.24	22.92	24.64	26.38	28.14	29.94	31.76	33.06	34.35	35.62	36.87	38.10	39.32	45.19	51.80	57.98
1200	20.89	22.67	24.48	26.33	28.20	30.10	32.04	34.00	35.39	36.76	38.10	39.43	40.74	42.03	48.25	55.22	61.71
1300	22.16	24.06	26.00	27.97	29.97	23.01	34.08	36.19	37.66	39.10	40.52	41.93	43.31	44.67	51.21	58.52	65.29
1400	23.38	25.40	27.46	29.56	31.69	33.86	36.07	38.33	39.87	41.39	42.89	44.36	45.81	47.24	54.09	61.71	68.73
1500	24.57	26.71	28.88	31.10	33.37	35.67	38.02	40.41	42.03	43.62	45.19	46.73	48.25	49.74	56.88	64.79	72.03
1600	25.71	27.97	30.26	32.61	35.00	37.44	39.92	42.46	44.15	45.81	47.44	49.05	50.63	52.18	59.59	67.76	75.19
1700	26.82	29.19	31.60	34.07	36.59	39.16	41.78	44.46	46.22	47.95	49.64	51.31	52.95	54.56	62.23	70.63	78.22
1800	27.89	30.37	32.90	35.49	38.14	40.84	43.60	46.42	48.25	50.04	51.79	53.52	55.22	56.88	64.78	73.40	81.12
1900	28.92	31.51	34.16	36.87	39.65	42.48	45.38	48.35	50.23	52.08	53.90	55.68	57.43	59.15	67.27	76.07	83.89
2000	29.92	32.62	35.39	38.22	41.12	44.09	47.13	50.23	52.18	54.09	55.96	57.79	59.59	61.36	69.68	78.64	86.53
2100	30.89	33.70	36.57	39.53	42.55	45.65	48.83	52.08	54.09	56.05	57.97	59.86	61.71	63.51	72.03	81.12	89.05
2200	31.82	37.74	37.73	40.80	43.95	47.19	50.50	53.90	55.96	57.97	59.95	61.88	63.77	65.62	74.30	83.50	91.43
2300	32.72	35.74	38.85	42.04	45.32	48.68	52.14	55.68	57.79	59.86	61.88	63.85	65.79	67.68	76.51	85.79	
2400	33.59	36.72	39.93	43.25	46.65	50.15	53.74	57.43	59.59	67.71	63.77	65.79	67.76	69.68	78.64	87.98	
2500	34.42	37.66	40.99	44.42	47.95	51.58	55.31	59.15	61.36	63.51	65.62	67.68	69.68	71.64	80.72	90.08	
2600	35.23	38.57	42.01	45.56	49.21	52.98	56.85	60.83	63.09	56.29	67.43	69.52	71.56	73.55	82.72	92.09	
2700	36.00	39.44	43.00	46.67	50.45	54.34	58.36	62.48	64.78	67.02	69.21	71.33	73.40	75.41	84.66		
2800	36.75	40.29	43.96	47.74	51.65	55.68	59.83	64.11	66.45	68.73	70.94	73.09	75.19	77.23	86.53		
2900	37.46	41.11	44.89	48.79	52.82	56.99	61.28	65.70	68.08	70.39	72.64	74.82	76.94	78.99	88.34		
3000	38.15	41.90	45.78	49.80	53.96	58.26	62.70	67.27	69.68	72.03	74.30	76.50	78.64	80.71	90.08		
3200	39.44	43.39	47.49	51.75	56.16	60.72	65.44	70.31	72.79	75.19	77.51	79.76	81.93	84.02			
3400	40.61	44.76	49.08	53.57	58.23	63.07	68.07	73.25	75.78	78.22	80.58	82.85	85.04	87.14			
3600	41.67	46.02	50.55	55.28	60.19	65.30	70.59	76.07	78.64	81.12	83.50	85.79	87.98	90.08			
3800	42.63	47.17	51.92	56.88	62.04	67.42	73.00	78.78	81.39	83.89	86.29	88.58	90.76				
4000	43.47	48.21	53.17	58.36	63.78	69.42	75.30	81.39	84.02	86.53	88.93	91.21					
4200	44.21	49.14	54.31	59.73	65.41	71.32	77.49	83.89	86.53	89.04	91.43						
4400	44.85	49.96	55.35	61.00	66.92	73.11	79.57	86.29	88.93	91.43							
4600	45.38	50.68	56.27	62.16	68.33	74.80	81.55	88.57	91.21								
4800	45.81	51.29	57.09	63.21	69.64	76.37	83.42	90.76									
5000	46.14	51.80	57.81	64.15	70.83	77.84	85.18										
5200	46.36	52.20	58.41	64.99	71.92	79.20	86.84										
5400	46.48	52.51		65.72	72.90	80.46											
5600	46.51	52.70		66.34	73.78												
5800	46.43			66.86	74.54												
6000	46.25																

* Endurance time will be reduced in [- - -] marked area. Please avoid if possible.
* Because the circumferential speed of pulley within the [ ] marked range is higher than 20m/sec, this range should be avoided whenever possible.
* Values in the table above is for nominal belt width 600(60mm). For other belt widths, those values should be multiplied by the width correction coefficient, Kb, shown in Table 29.

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.

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

Rotary Speed of Small Pulley(rpm) \ No. of Teeth of Small Pulley	14	16	18	20	22	24	26	28	30	32	36	40	44	48	54	60	72	80
Diameter of the Pitch Circle(mm)	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		1305	2153	3108	3737	4539	5330	6112	6853	7559	8889	10199	11335	12372	13803	15172	17429	18431
7000		1382	2352	3445	4136	5044	5936	6817	7648	8438	9915	11358	12590	13695	15183	16561	18641	19343
8000			2524	3749	4495	5501	6487	7459	8370	9235	10835	12383	13677	14812	16285	17586	19259	
9000			2671	4023	4815	5912	6984	8037	9018	9946	11645	13265	14586	15706	17086	18212		
10000				4266	5096	6277	7426	8550	9591	10570	12339	13998	15303	16361	17560			
12000				4660	5541	6865	8141	9375	10498	11541	13356	14976	16113	16883				
14000				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	20	22	24	26	28	30	32	34	36	38	40	44	48	54	60	64	72	80
Diameter of the Pitch Circle(mm)	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	12.38	13.82	16.06	18.46	21.56	24.71	26.94	30.85	34.86
2400	4.06	5.01	6.05	7.19	8.43	9.76	11.20	12.30	13.45	14.65	16.39	19.07	21.93	25.61	29.34	31.97	36.55	41.21
2800	4.57	5.66	6.88	8.20	9.64	11.20	12.87	14.15	15.48	16.87	18.90	22.00	25.31	29.55	33.82	36.82	41.99	47.22
3200	5.05	6.29	7.67	9.18	10.82	12.59	14.50	15.95	17.46	19.03	21.35	24.86	28.60	33.35	38.12	41.46	47.14	52.83
3600	5.50	6.89	8.43	10.12	11.96	13.95	16.08	17.69	19.38	21.12	23.72	27.62	31.78	37.01	42.22	45.86	51.95	57.98
4000	5.94	7.47	9.17	11.03	13.06	15.26	17.62	19.39	21.23	23.15	26.02	30.30	34.84	40.50	46.10	50.00	56.39	
5000	6.91	8.79	10.87	13.16	15.65	18.34	21.24	23.37	25.59	27.88	31.39	36.50	41.90	48.40	54.68			
6000	7.75	9.94	12.38	15.05	17.97	21.12	24.52	26.95	29.47	32.08	36.16	41.92	47.96	54.90				
7000	8.44	10.92	13.68	16.70	20.00	23.57	27.39	30.06	32.82	35.65	40.22	46.41	52.84					
8000	8.99	11.72	14.76	18.09	21.72	25.63	29.82	32.65	35.55	38.52	43.45							

* 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 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.2274**.	-	10	15	20			
		-	1.00	1.60	2.30			
T10	See **P.2274**.	-	15	20	25	30	40	50
		-	1.60	2.30	2.90	3.50	4.60	5.80
S2M	See **P.2272**.	4	6	10				
		1.00	1.59	2.84				
S3M	See **P.2273**.	6	10	15				
		1.00	1.79	2.84				
S5M	See **P.2273**.	10	15	25				
		1.00	1.59	2.84				
S8M	2736.0	15	-	25	30	40	-	-
		0.21	-	0.37	0.45	0.63	-	-
S14M	8483.0	-	40	-	60	-	-	-
		-	0.29	-	0.45	-	-	-

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

Speed of Small Pulley (rpm) \ Number of Small Pulley Teeth	14	15	16	18	20	22	24	26	28	30	32	36	40	44	50	60
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	35.5
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	33.2
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	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	24.2
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	58.2
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	52.7
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	49.5
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	47.5	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	45.5
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	44.0
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	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	41.9	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	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	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	39.2
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	38.5
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	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	37.3
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	36.4	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	35.3
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	34.4
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	33.7
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	33.0
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	32.3
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	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	31.2
1600	22.1	23.3	24.4	26.0	27.2	28.1	28.8	29.3	29.8	30.1	30.3	30.7	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	30.2
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	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	29.5	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	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	28.3	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	27.6	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	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	26.1
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	25.8	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	25.0
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	24.5
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	24.3	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	23.5
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	23.4	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	22.4	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	21.5	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	20.7	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	19.9	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	19.2	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	18.5	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	18.0	17.8	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	17.2	16.6
9000	8.3	9.5	10.5	12.1	13.3	14.2	14.8	15.3	15.7	16.0	16.1	16.4	16.4	16.3	16.0	15.3

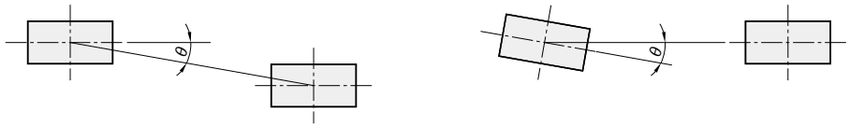
* Try to avoid use of belts within the range enclosed with [ ]. Otherwise, the durable time might be shortened.
* The above table is for 4.0mm of belt width. When the desired belt has the other width, multiply the value on the above table by the relevant width correction factor Kb provided on the Table 29.

Early failures and countermeasures

Abnormal Phenomena	Cause	Measures
Abnormal Wear of Belt Side Faces	· Pulley misalignment · Pulley shafts misalignments · Bent pulley flanges	· Realign · Correct shaft misalignments · Correct bent pulley flanges
Tooth Contact Pressure Surface Abnormal Wear	· Overload · Belt tension too high, too low	· Redesign with a wide belt or use larger belt pitch · Adjust initial belt tension
Belt abnormal wear on pulley contacting area	· Pulley tooth shape incorrect · Belt tension too high	· Adjust initial belt tension · Try to recreate belt systems by taking note of tooth tip radius
Broken/missing tooth	· Pulley diameter too small · Small pulley meshing 6 teeth or less · Shock loading exists	· Redesign · Increase small pulley tooth mesh or redesign · Avoid shock loading on belt · Increase belt width
Severed Core Wire	· Overload · Core wire decreased elasticity or corrosion · Induction of foreign matter · Excessive temperature	· Redesign · Check belt storage and shipping history/condision · Avoid shocks · Provide a belt cover · Lower environment temperature
Cracks on Backing Rubber	· Usage in low temperature · Pulley diameter too small	· Raise environment temp. · Increase pulley diameter
Heat Degradation of Rubber	· Rubber degradation due to high enviroment temperature	· Lower environment temperature
Rubber Swelling	· Contact with oils · Contact with water	· Avoid oil from contacting · Avoid water from contacting
Abnormal Wear of Pulley Teeth	· Overload · Belt tension too high · Pulley material too soft	· Redesign · Adjust initial belt tension · Apply surface hardening treatment on pulley or change pulley material
Pulley Circumference Wear	· Pulley service life has been reached · Belt tension too high (core wire visible on belt back side)	· Replace with a new pulley · Replace with new pulley and belt, and use lower belt tension
Abnormal Sound	· Belt tension too high · Overload · Pulley diameter too small · Pulley tooth shape incorrect	· Realign · Adjust initial belt tension · Redesign · Correct pulley tooth geometry
Apparent Belt Stretch	· Shaft center distance too small · Loose machine base	· 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≤
tanθ	5/1000	3/1000	2/1000

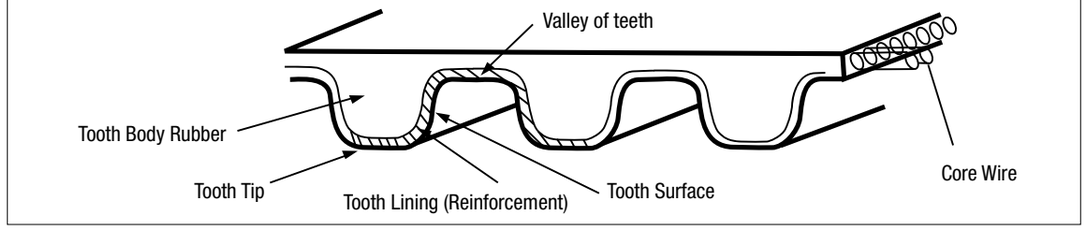
•P_M/UP_M

Belt width (mm)	≤30
tanθ	5/1000

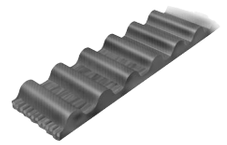
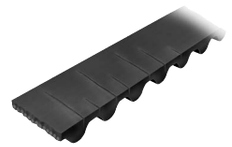
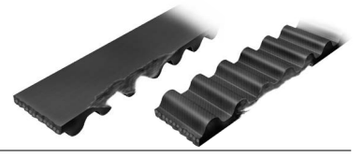
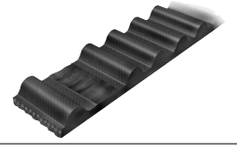
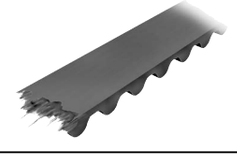
•_GT/EV5GT/EV8YU

Belt width (mm)	≤20	20<40
tanθ	6/1000	3/1000

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.