Timing-Belt Drives - Description

General Description
Timing-belt drives enable a quiet operation and synchronous transmission of power. As they are maintenance free, these drives are very cost efficient. Due to varying requirements and consideration of the latest developments, there are a large number of different profiles, belt types and pulleys on the market. When non-positive drives (e.g. v-belt systems) are replaced, it is worth considering whether a conversion to a positive power transmission could be allowed from a safety point of view (some drives require slip at overload).

Selection and Dimensioning
The belt material and type of timing belt must be selected considering the specific situation (e.g. required features regarding machine or surroundings). There are performance tables and a user-friendly calculation programme on the internet to help you select the correct size. Small pulley diameters reduce the service life. And at least 6 teeth should be engaged at any time.
When consulting the performance tables, several application-specific operating factors must be considered.

Mounting and Maintenance
At least one pulley must be equipped with flanges. The axes must be parallel (deviation no more than +0.5°). The belt must not be overstretched during mounting. For mounting and adjustment of the ideal belt there have to be sufficient possibilities for adjustment incorporated into the system.

Belt Tension
Each belt needs a certain pre-tension, depending on the type of belt, pulley diameter, center distance and the tangential force to be transmitted. The overall sum of tensioning and peripheral force must not exceed the permitted tensile force of the belt. The belt tension is best adjusted by altering the center distance. Otherwise a smooth tensioning pulley mounted on the outside or a toothed one on the inside of the belt may be used for adjustment.

Degree of degree of efficiency de
Depending on the type of belt (flexibility) and the number of teeth on the pulley (bending) the degree of efficiency can reach 98 %. Belts with tensile members of glass fibre cords (HTD and Inch) are particularly flexible.

Timing Belt Profiles

Type	Profile	Pitch mm	Overall Height** mm	Tooth Height mm	Tensile Force N*
Metric 	**T2.5**	2,5	1,3	0,7	120
	T5	5	2,2	1,2	330
	T10	10	4,5	2,5	780
	T20	20	8,0	5,0	1210
Metric 	**AT3**	3	1,9	1,1	380
	AT5	5	2,7	1,2	700
	AT10	10	4,5	2,5	1300
	AT20	20	8,0	5,0	2240

Type	Profile	Pitch mm	Overall Height mm	Tooth Height mm	Tensile Force N*
HTD 	**3M**	3	2,4	1,21	90
	5M	5	3,8	2,08	160
	8M	8	6,0	3,38	300
	14M	14	10,0	6,02	400
Inch 	**MXL**	2,032	1,14	0,51	35
	XL	5,08	2,3	1,27	60
	L	9,525	3,6	1,91	90
	H	12,70	4,3	2,29	220

* Permissible tensile force at 10mm belt width.

** Hight may vary at open-length types.

T Timing Belt Drives

- Classical, trapezoid profile in accordance with ISO 17396 with metric dimensions T2.5, T5 and T10 in several widths. T20 and other widths available on request.
- Often used, cost-efficient, clean standard belt drive in many areas of machine building, e.g. also in the food industry. Polyurethane (PU) timing belts with tensile members of steel, little lengthening
- Little and light-coloured abrasion, good resistance against oil, fats and many chemicals. Temperature range -30° to +80°C. Good flexibility.
- Open length belts from thermoplastic polyurethane TPU can get welded to endless belts in special lengths.
- cost-efficient pulleys made from aluminium (some also made from plastic) pre-bored (custom bore etc. at extra charge). Pitch T5 and T10 also available from grey cast for Taper clamping bush.
- T timing belt drives do **not** feature little backlash (low backlash or zero backlash pulleys can be especially manufactured on request).

AT Timing Belt Drives

- Trapezoid profile in accordance with ISO 17396, especially designed to transmit high power, with metric dimensions AT3, AT5 and AT10, in stock in several widths. AT20 and other widths on request.
- Clean belt drive used in many areas of machine building, e.g. also in the food industry.
- Polyurethane (PU) timing belts with tensile members of steel, little lengthening
- Little and light-coloured abrasion, good resistance against oil, fats and many chemicals. Temperature range -30° to +80°C. Good flexibility.
- Open length belts from thermoplastic polyurethane TPU can get welded to endless belts in special lengths.
- Cheap pulleys made from aluminium (some also made from plastic) pre-bored (custom bore etc. at extra charge). Pitch AT5 and AT10 also available from grey cast for Taper clamping bush.
- AT timing belt drives do **not** feature little backlash (low backlash or zero backlash pulleys can be especially manufactured on request).

HTD Timing Belt Drives

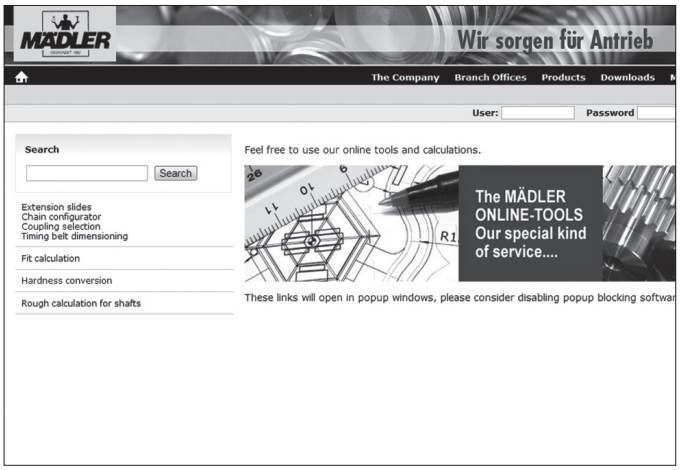
- Heavy-duty timing belt with half-round teeth profile, with metric dimensions, pitch 3 mm, 5 mm, 8 mm and 14 mm.
- Low-backlash belt drive with high efficiency used in many areas of machine building.
- Neoprene timing belts with tensile member of glass-fibre. Little, but dark abrasion. Temperature range -20° to +100°C.
- Up to medium speed quiet. At higher speed some noise due to the fast movement of air out of the tooth gaps.
- Pitch-true, more expensive pulleys made from steel (pitch 3M made from aluminium, pitch 5M from 44 teeth made from aluminium).
- Pulleys pre-bored (custom bore etc. at extra charge), pitch 8M and 14M also available from grey cast for Taper clamping bush.

Inch Timing Belt Drives

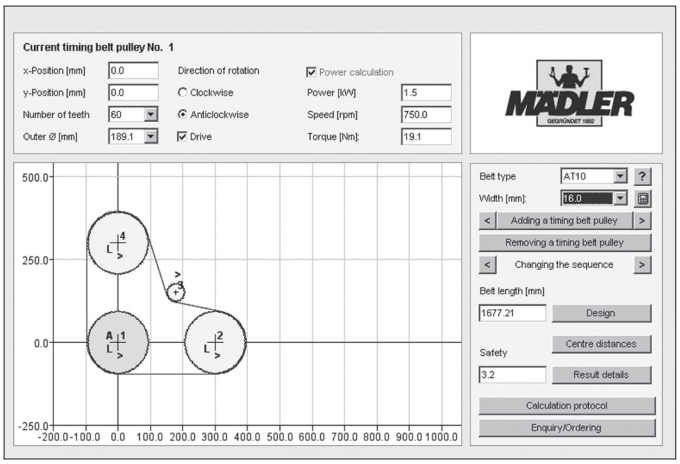
- Classical trapezoid profile in accordance with old ISO 5294 (ex DIN ISO 5296) with inch dimensions, profile MXL, XL, L and H (pitch 0.08" = 2.032 mm to 1/2" = 12.7 mm), in several widths. Other sizes on request.
- Classical timing-belt drive which is, apart from the favoured MXL-profile, usually not used in newly designed systems anymore.
- Neoprene timing belts with tensile member of glass-fibre. Low noise, little, but dark abrasion. Temperature range -20° to +100°C.
- Pulleys made from steel or cast iron (pitch MXL and XL made from aluminium), pre-bored (custom bore, etc. at extra charge).
- Inch timing belt drives do **not** feature little backlash.

Timing Belts: Online – Calculation Program on the Internet

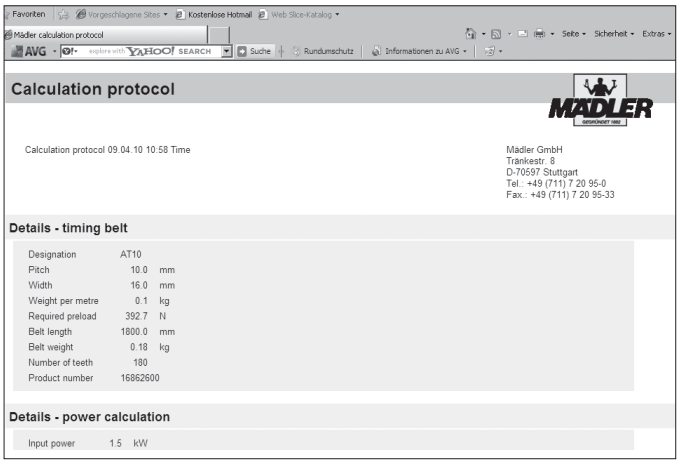
At **www.maedler.de** in the internet you click at the button ***MÄDLER®*-Tools** and you get to a comfortable online calculation programme. This programme contains all common sizes and ensures a fast and safe set up of timing belt drives.



The number and location of the pulleys can be altered. Select the profile and the number of teeth. Enter your performance data and let the system work out the required belt width. ATTENTION: The performance data either has to be entered for every single pulley or the performance calculation has to be turned of for the output pulleys. The determination of the belt length is simplified through the use of a scroll-window listing the standard belt lengths. In a next step lease check whether the stated safety factor is sufficient. If the system is over or under dimensioned, choose larger or smaller timing belt profile respectively.



For your own documentation you can print out a calculation report with all parametres and results of your drive set up. If a pop-up blocker is activated in your Internet Explorer, it has to be turned off first.



The parts list contains all selected products and simplifies the ordering process. You can print, export or save the parts list. By clicking on the Product No. you get to the internet page of the respective product group.
On theses pages you can get collect information, even look at 2D and 3D CAD drawings.

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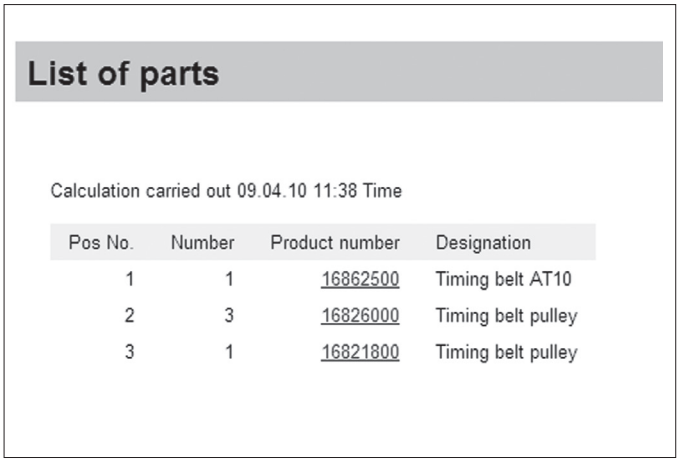


Calculation of the Power P_B

$$P_B = P_N \times (K_1 + K_2 + K_3 + C_1)$$

P_B: Selection Power [kW]
P_N: Nominal Power Driving Motor
K_1: Load Factor (Table 1)
K_2: Tensioning Pulley Factor (Table 2)
K_3: Transmission Ratio Allowance (Table 3)
C_1: Teeth Meshing Factor (Table 4)

Notes Regarding the Calculation

The corrective factors below are in particular fitting for T and AT timing belt drives. This means that the calculations below only render exact results for these belt types. The formulas are however generally valid, which means the results are roughly correct for HTD and Inch belt types. For an exact and comfortable calculation please use our online calculation programme at www.maedler.de, see page 130.

Table 1: Corrective Factor for Load K_1

Examples for machines used: Machines that are not mentioned below have to be matched to a group with similar load.	Example for Driving Units					
	Starting Torque up to 3 times Nominal Torque			Starting Torque over 3 times Nominal Torque		
	AC Motors (standard and synchronous motors) DC Shunt-Wound Motor Combustion engines with two or more cylinder			Electric motors (with high starting and breaking torque) DC Compound Motors Combustion engines with one cylinder		
	Daily Operating Time (hours)					
	up to 5	up to 12	up to 24	up to 5	up to 12	up to 24
Office Machines, Household Machines Counting Machines	1.0	1.2	1.4	1.2	1.4	1.6
Wood-working Machines, Printing Machines Fans and Blowers	1.2	1.4	1.6	1.4	1.6	1.8
Machine Tools, Textile Machines Laundry Machines	1.3	1.5	1.7	1.5	1.7	1.9
Paper Machines, Reciprocating Engines Hoisting Devices	1.4	1.6	1.8	1.6	1.8	2.0

Table 2: Corrective Factor for Tens. Pulley K_2

Mounting Position of Tensioning Pulley K_2	
Inner Side Slack Length	0.0
Outer Side Slack Length	0.1
Inner Side Tight Length	0.1
Outer Side Tight Length	0.2

Table 3: Corrective Factor for Ratio K_3

Transmission Ratio	K_3
1.00 - 1.24	0.4
1.25 - 1.74	0.3
1.75 - 2.49	0.2
2.50 - 3.49	0.1
over 3.50	0.0

Table 4: Teeth-in-Mesh Factor C_1

Teeth in mesh					
No. of Teeth in Mesh:	≥ 6	5	4	3	2
Teeth-in-Mesh Factor C_1:	0	0.25	0.7	1.5	4

Selection of Belt Type

For the calculation of P_B select belt type, pitch, width and pulley diameter by looking at the Performance Table page 132.
Please consider the width factors mentioned in the table.

Selection of Pulley

Use the largest pulley diameter possible. A larger diameter leads to a reduction of the the bending load and of the required belt width. We recommend the standard pulleys listed in the catalogue. The respective permissible torques can be found in the Performance Tables page 132.

Checking the Belt Speed

Belt speeds above 30 m/s require an exact balancing of the pulleys. The belt speed is calculated with the formula below:

$$v = (d_w \times n) / 19100$$

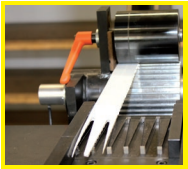
v: belt speed (m/s)
d_w: effective diameter of the pulley (mm)
n: torque of the pulley (min^{-1})

Selecting the Belt Length

When selecting the belt length, always consider the lengths listed in the catalogue. The belt length for a simple drive with two toothed pulleys and a transmission ratio of 1:1 can be easily calculated from the effective diameter of the toothed pulley and the centre distance:

Effective length of the belt = effective circumference of the toothd pulley plus twice the centre distance

The effective length of a belt and the centre distance for drives with a ratio other than 1:1 or with more than two toothed pulleys can be detremined from a drawing or, even simpler, by using the online tool at **www.maedler.de, MÄDLER®-Tools** (see page 130).



Timing Belt Welding within 24h-Service

Profile T 2.5 Performance Figures in W/10 mm Timing Belt Width

Speed of small pulley min^{-1}	Teeth No. of Small Pulley 12	14	16	18	20	24	28	30	36	40	48	60
	Effective Diameter (mm) 9.56	11.14	12.73	14.32	15.92	19.15	22.35	23.95	28.75	31.90	38.30	47.85
100	2,3	2,5	3,0	3,3	3,8	4,5	5,0	5,5	6,5	7,3	8,8	11,0
200	4,5	5,0	5,8	6,5	7,3	8,8	10,3	11,0	13,3	14,5	17,5	22,0
400	8,8	10,3	11,8	13,3	14,5	17,5	20,5	22,0	26,3	29,3	35,0	43,8
500	11,0	12,8	14,5	16,5	18,3	22,0	25,5	27,5	32,8	36,5	43,8	54,8
600	13,3	15,3	17,5	19,8	22,0	26,3	30,8	32,8	39,5	43,8	52,5	65,8
800	17,5	20,5	23,5	26,3	29,3	35,0	41,0	43,8	52,5	58,5	70,0	87,5
1000	22,0	25,5	29,3	32,8	36,5	43,8	51,0	54,8	65,8	73,0	87,5	109,3
1400	-	35,8	41,0	46,0	51,0	61,3	71,5	76,8	92,0	102,0	122,5	152,8
1800	-	46,0	52,5	59,3	65,8	78,8	92,0	98,5	118,0	131,0	157,0	195,8
2400	-	-	70,0	78,8	87,5	105,0	122,5	131,0	157,0	174,3	208,8	259,5
2800	-	-	81,8	92,0	102,0	122,5	142,5	152,8	183,0	203,0	242,8	301,3
3000	-	-	87,5	98,5	109,3	131,0	152,8	163,5	195,8	217,3	259,5	322,0
3600	-	-	105,0	118,0	131,0	157,0	183,0	195,8	234,3	259,5	309,8	382,8
4000	-	-	116,5	131,0	145,5	174,3	203,0	217,3	259,5	287,5	342,5	422,3
4800	-	-	139,8	157,0	174,3	208,8	242,8	259,5	309,8	342,5	406,5	498,3

Profile T 5 Performance Figures in kW/10 mm Timing Belt Width

Speed of small pulley min^{-1}	Teeth No. of Small Pulley 12	14	16	18	20	24	28	30	36	40	48	60
	Effective Diameter (mm) 19.10	22.28	25.46	28.65	31.83	38.20	44.56	47.75	57.30	63.66	76.39	95.49
100	0,01	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,04	0,05	0,06	0,07
200	0,02	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,07	0,09	0,11
400	0,04	0,05	0,05	0,06	0,06	0,08	0,09	0,10	0,12	0,13	0,16	0,19
500	0,05	0,06	0,06	0,07	0,08	0,10	0,11	0,12	0,14	0,16	0,19	0,24
600	0,06	0,07	0,08	0,08	0,09	0,11	0,13	0,14	0,17	0,19	0,23	0,28
800	0,07	0,09	0,10	0,11	0,12	0,15	0,17	0,18	0,22	0,24	0,29	0,36
1000	0,09	0,10	0,12	0,13	0,15	0,18	0,20	0,22	0,26	0,29	0,35	0,44
1400	0,12	0,13	0,15	0,17	0,19	0,23	0,27	0,29	0,35	0,38	0,46	0,58
1800	0,14	0,16	0,19	0,21	0,23	0,28	0,33	0,35	0,42	0,47	0,56	0,70
2400	0,17	0,20	0,23	0,26	0,29	0,35	0,40	0,43	0,52	0,58	0,69	0,86
3000	0,20	0,23	0,27	0,30	0,34	0,40	0,47	0,50	0,60	0,67	0,81	1,01
4000	0,24	0,28	0,32	0,37	0,41	0,49	0,57	0,61	0,73	0,81	0,97	1,22
5000	0,28	0,33	0,37	0,42	0,47	0,56	0,65	0,70	0,84	0,93	1,12	1,40
6000	-	-	0,42	0,47	0,52	0,63	0,78	0,78	0,94	1,04	1,25	1,56
7000	-	-	0,46	0,51	0,57	0,69	0,80	0,86	1,03	1,14	1,37	-

Profile T 10 Performance Figures in kW/10 mm Timing Belt Width

Speed of small pulley min^{-1}	Teeth No. of Small Pulley 12	14	16	18	20	24	28	30	36	40	48	60
	Effective Diameter (mm) 38.20	44.56	50.93	57.30	63.66	76.39	89.13	95.49	114.59	127.32	152.79	190.99
100	0,04	0,05	0,06	0,06	0,07	0,08	0,10	0,10	0,12	0,14	0,17	0,21
200	0,07	0,08	0,10	0,11	0,12	0,15	0,17	0,18	0,22	0,24	0,29	0,36
400	0,13	0,15	0,17	0,20	0,22	0,26	0,31	0,33	0,39	0,44	0,52	0,65
600	0,19	0,22	0,25	0,28	0,31	0,37	0,43	0,47	0,56	0,62	0,74	0,93
800	0,24	0,28	0,32	0,36	0,40	0,48	0,56	0,59	0,71	0,79	0,85	1,19
1000	0,29	0,33	0,38	0,43	0,48	0,57	0,67	0,72	0,86	0,95	0,95	1,43
1400	0,38	0,44	0,50	0,56	0,63	0,75	0,88	0,94	1,14	1,25	1,33	1,88
1800	0,46	0,53	0,61	0,68	0,76	0,91	1,06	1,14	1,37	1,52	1,67	2,28
2200	0,53	0,62	0,70	0,79	0,88	1,06	1,23	1,32	1,59	1,76	1,97	2,64
2800	0,63	0,73	0,84	0,94	1,05	1,26	1,46	1,57	1,88	2,09	2,38	3,14
3000	-	0,77	0,88	0,99	1,10	1,32	1,54	1,65	1,98	2,20	2,51	3,29
3500	-	0,89	0,99	1,12	1,24	1,49	1,74	1,86	2,24	2,49	2,63	-
4000	-	-	1,07	1,20	1,33	1,60	1,87	2,00	2,40	2,67	2,98	-
5000	-	-	1,23	1,39	1,54	1,85	2,16	2,31	2,77	-	-	-
6000	-	-	1,38	1,55	1,73	2,07	2,42	2,59	-	-	-	-

The permissible performance figures for any timing belt width can be calculated by multiplying the figures in the table above with the respective width factors on page 133.

In this area of the table the service life is affected!

Profile AT 5 Performance Figures in kW/10 mm Timing Belt Width

Speed of small pulley min^{-1}	Teeth No. of Small Pulley 12	14	16	18	20	24	28	30	36	40	48	60
	Effective Diameter (mm) 19.10	22.28	25.46	28.65	31.83	38.20	44.56	47.75	57.30	63.66	76.39	95.49
100	0,02	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,09	0,12	0,14	0,16
200	0,05	0,05	0,07	0,07	0,09	0,09	0,12	0,12	0,14	0,16	0,21	0,26
400	0,09	0,12	0,12	0,14	0,14	0,19	0,21	0,23	0,28	0,30	0,37	0,44
500	0,12	0,14	0,14	0,16	0,19	0,23	0,26	0,28	0,32	0,37	0,44	0,56
600	0,14	0,16	0,19	0,19	0,21	0,26	0,30	0,32	0,39	0,44	0,53	0,65
800	0,16	0,21	0,23	0,26	0,28	0,35	0,39	0,42	0,51	0,56	0,67	0,84
1000	0,21	0,23	0,28	0,30	0,35	0,42	0,46	0,51	0,60	0,67	0,81	1,02
1400	0,28	0,30	0,35	0,39	0,44	0,53	0,63	0,67	0,81	0,88	1,07	1,35
1800	0,32	0,37	0,44	0,49	0,53	0,65	0,77	0,81	0,97	1,09	1,30	1,62
2400	0,39	0,46	0,53	0,60	0,67	0,81	0,93	1,00	1,21	1,35	1,60	2,00
3000	0,46	0,53	0,63	0,70	0,79	0,93	1,09	1,16	1,39	1,55	1,88	2,34
4000	0,56	0,65	0,74	0,86	0,95	1,14	1,32	1,42	1,69	1,88	2,25	2,83
5000	0,65	0,77	0,86	0,97	1,09	1,30	1,51	1,62	1,95	2,16	2,60	3,25
6000	-	-	0,97	1,09	1,21	1,46	1,81	1,81	2,18	2,41	2,90	3,62
7000	-	-	1,07	1,18	1,32	1,60	1,86	2,00	2,39	2,64	3,18	-

Profile AT 10 Performance Figures in kW/10 mm Timing Belt Width

Speed of small pulley min^{-1}	Teeth No. of Small Pulley 18	20	24	28	30	36	40	48	60
	Effective Diameter (mm) 57.30	63.66	76.39	89.13	95.49	114.59	127.32	152.79	190.99
100	0,16	0,19	0,22	0,27	0,27	0,32	0,38	0,46	0,57
200	0,30	0,32	0,41	0,46	0,49	0,59	0,65	0,78	0,97
400	0,54	0,59	0,70	0,84	0,89	1,05	1,19	1,40	1,76
600	0,76	0,84	1,00	1,16	1,27	1,51	1,67	2,00	2,51
800	0,97	1,08	1,30	1,51	1,59	1,92	2,13	2,30	3,21
1000	1,16	1,30	1,54	1,81	1,94	2,32	2,57	2,57	3,86
1400	1,51	1,70	2,03	2,38	2,54	3,09	3,38	3,59	5,08
1800	1,84	2,05	2,46	2,86	3,08	3,70	4,10	4,51	6,16
2200	2,13	2,38	2,86	3,32	3,56	4,29	4,75	5,32	7,13
2600	2,40	2,67	3,21	3,75	4,02	4,83	5,37	6,08	8,05
3000	2,67	2,97	3,56	4,16	4,46	5,35	5,94	6,78	8,88
3500	3,02	3,35	4,02	4,70	5,02	6,05	6,72	7,10	-
4000	3,24	3,59	4,32	5,05	5,40	6,48	7,21	8,05	-
5000	3,75	4,16	5,00	5,83	6,24	7,48	-	-	-
6000	4,19	4,67	5,59	6,53	6,99	-	-	-	-

The permissible performance figures for other timing belt widths can be calculated by multiplying the figures in the table above with the respective width factors.

Width Factors, Profile T 2.5

Belt Width	4	6	8	10	12
Width Factor	0.36	0.44	0.62	1.0	1.08

Width Factors, Profile T 5 and AT 5

Belt Width	6	10	16	20	25	50
Width Factor	0.58	1.0	1.42	1.83	2.33	4.98

Width Factors, Profile T 10 and AT 10

Belt Width	10	16	20	25	32	50	75
Width Factor	1.0	1.58	1.88	2.33	3.05	4.98	7.48

Profile 3M, Performance Figures in kW/25 mm Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of Small Pulley														
	10	12	16	20	24	28	32	36	40	44	48	56	64	72	80
	Effective Diameter mm														
	9,55	11,46	15,28	19,10	22,92	26,74	30,56	34,38	38,20	42,02	45,84	53,48	61,12	68,75	76,39
20	0,005	0,006	0,009	0,012	0,015	0,017	0,020	0,022	0,025	0,028	0,030	0,035	0,040	0,045	0,050
40	0,009	0,012	0,017	0,022	0,027	0,032	0,037	0,042	0,047	0,052	0,056	0,066	0,075	0,084	0,093
60	0,013	0,017	0,024	0,032	0,039	0,046	0,054	0,061	0,068	0,075	0,082	0,095	0,109	0,122	0,135
100	0,020	0,026	0,038	0,050	0,062	0,074	0,085	0,096	0,107	0,118	0,129	0,151	0,172	0,193	0,214
200	0,036	0,048	0,071	0,093	0,115	0,137	0,158	0,179	0,200	0,220	0,240	0,280	0,320	0,358	0,397
400	0,065	0,087	0,130	0,171	0,212	0,252	0,291	0,330	0,369	0,406	0,444	0,517	0,590	0,660	0,730
600	0,091	0,122	0,184	0,244	0,302	0,359	0,415	0,471	0,525	0,579	0,632	0,736	0,838	0,937	1,035
800	0,115	0,155	0,235	0,312	0,387	0,461	0,533	0,604	0,674	0,742	0,810	0,942	1,070	1,194	1,315
1000	0,13	0,19	0,28	0,38	0,47	0,56	0,64	0,73	0,81	0,89	0,98	1,13	1,29	1,43	1,57
1400	0,18	0,24	0,37	0,50	0,62	0,74	0,86	0,97	1,08	1,18	1,29	1,49	1,67	1,85	2,01
1600	0,20	0,27	0,42	0,56	0,69	0,83	0,96	1,08	1,20	1,32	1,43	1,64	1,84	2,02	2,19
2000	0,23	0,33	0,59	0,67	0,84	0,99	1,14	1,29	1,43	1,56	1,69	1,92	2,13	2,31	2,45
2400	0,32	0,41	0,59	0,76	0,92	1,08	1,22	1,36	1,51	1,64	1,77	2,02	2,26	2,49	2,71
2850	0,35	0,46	0,67	0,86	1,04	1,22	1,39	1,55	1,71	1,86	2,00	2,29	2,55	2,81	3,06
3600	0,41	0,54	0,79	1,02	1,23	1,44	1,64	1,83	2,01	2,19	2,36	2,69	3,00	3,29	3,58
4000	0,44	0,58	0,85	1,09	1,33	1,55	1,765	1,97	2,16	2,35	2,54	2,89	3,22	3,53	3,83
5000	0,51	0,67	0,98	1,27	1,55	1,81	2,05	2,29	2,52	2,73	2,95	3,35	3,72	4,07	4,41
6000	0,56	0,75	1,11	1,44	1,75	2,04	2,32	2,58	2,84	3,08	3,31	3,76	4,17	4,56	4,93
8000	0,80	1,03	1,46	1,84	2,19	2,52	2,82	3,09	3,34	3,57	3,77	4,12	4,39	4,57	4,66
10000	0,89	1,16	1,65	2,09	2,48	2,83	3,15	3,43	3,68	3,89	4,07	4,34	4,47	4,47	4,33
12000	0,97	1,27	1,81	2,29	2,71	3,07	3,39	3,66	3,88	4,06	4,19	4,30	4,21	-	-
14000	1,03	1,36	1,94	2,45	2,88	3,24	3,50	3,78	3,96	4,07	4,11	3,99	-	-	-

Profile 5M, Performance Figures in kW/25 mm Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of Small Pulley														
	14	16	18	20	24	28	32	36	40	44	48	56	64	72	80
	Effective Diameter mm														
	22,28	25,46	28,65	31,83	38,20	44,56	50,93	57,30	63,66	70,03	76,39	89,13	101,86	114,59	127,32
20	0,016	0,020	0,024	0,028	0,036	0,044	0,051	0,059	0,066	0,074	0,081	0,095	0,110	0,124	0,138
40	0,031	0,038	0,046	0,053	0,068	0,082	0,097	0,111	0,125	0,139	0,153	0,180	0,207	0,234	0,261
60	0,044	0,055	0,065	0,076	0,098	0,119	0,140	0,160	0,181	0,201	0,221	0,261	0,300	0,339	0,377
100	0,068	0,085	0,103	0,120	0,154	0,188	0,221	0,254	0,286	0,319	0,351	0,414	0,476	0,538	0,599
300	0,171	0,219	0,266	0,313	0,406	0,497	0,587	0,675	0,762	0,848	0,934	1,101	1,266	1,426	1,584
400	0,216	0,278	0,340	0,401	0,521	0,638	0,754	0,868	0,980	1,091	1,200	1,413	1,621	1,823	2,020
600	0,299	0,388	0,477	0,564	0,736	0,903	1,068	1,229	1,386	1,540	1,691	1,984	2,263	2,528	2,779
800	0,374	0,490	0,604	0,716	0,936	1,149	1,357	1,559	1,756	1,946	2,131	2,481	2,805	3,101	3,366
1000	0,44	0,58	0,72	0,86	1,12	1,38	1,62	1,86	2,09	2,31	2,51	2,90	3,23	3,52	3,75
1400	0,68	0,84	0,98	1,14	1,43	1,71	1,98	2,25	2,51	2,77	3,02	3,51	3,99	4,44	4,89
1600	0,76	0,90	1,10	1,26	1,59	1,90	2,21	2,51	2,80	3,08	3,36	3,91	4,43	4,93	5,41
2000	0,89	1,10	1,31	1,51	1,90	2,27	2,64	2,99	3,34	3,68	4,01	4,65	5,25	5,83	6,37
2400	1,03	1,27	1,50	1,74	2,19	2,62	3,04	3,45	3,85	4,24	4,61	5,33	6,00	6,63	7,21
2850	1,16	1,44	1,71	1,98	2,50	2,99	3,47	3,94	4,38	4,82	5,23	6,02	6,74	7,40	7,99
3600	1,37	1,70	2,04	2,36	2,98	3,57	4,13	4,67	5,19	5,68	6,15	7,01	7,75	8,39	8,90
4000	1,48	1,84	2,20	2,54	3,21	3,85	4,46	5,03	5,58	6,09	6,57	7,44	8,17	8,74	9,17
5000	1,71	2,14	2,57	2,98	3,76	4,49	5,18	5,81	6,40	6,94	7,42	8,22	8,77	9,05	9,04
6000	1,97	2,42	2,89	3,36	4,23	5,04	5,77	6,44	7,02	7,53	7,95	8,52	8,69	8,42	8,26
8000	2,63	3,14	3,53	4,00	4,92	5,62	6,38	6,65	6,96	7,12	7,12	7,02	-	-	-
10000	2,92	3,49	4,03	4,51	5,33	5,95	6,36	6,53	6,46	6,12	6,00	-	-	-	-
12000	3,32	3,73	4,27	4,74	5,46	5,86	5,93	5,62	-	-	-	-	-	-	-
14000	3,62	3,93	4,35	4,76	5,27	5,30	4,83	-	-	-	-	-	-	-	

The permissible performance figures for any timing belt width can be calculated by multiplying the figures in the table above with the respective width factors.

Width Factors 3M and 5M

Timing Belt Width	6	8	9	12	15	19	22	25	32	40	50
Width Factor	0,18	0,25	0,29	0,42	0,54	0,72	0,86	1,0	1,32	1,69	2,14

In this area of the table the service life might be shortened with increasing torque and a ratio close to 1 : 1. Please ask for more information.

Refers to cases where both circumstance come together. (shorter service life and no pulleys made from cast iron).

Speeds higher than 30 m/s.
Cast iron pulleys cannot be used in this range.

Profile 8M, Performance Figures in kW/25 mm Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of small pulley / Effective Diameter mm														
	20	22	24	26	28	30	32	36	40	44	48	56	64	72	80
	50,93	56,02	61,12	66,21	71,30	76,39	81,49	91,67	101,86	112,05	122,23	142,60	162,97	183,35	203,72
10	0,02	0,02	0,03	0,03	0,03	0,04	0,04	0,05	0,06	0,07	0,08	0,09	0,11	0,13	0,14
20	0,04	0,05	0,05	0,06	0,07	0,08	0,09	0,10	0,12	0,14	0,15	0,19	0,22	0,25	0,28
50	0,10	0,12	0,14	0,16	0,18	0,20	0,22	0,26	0,30	0,34	0,38	0,46	0,54	0,62	0,70
100	0,19	0,23	0,27	0,31	0,35	0,39	0,43	0,51	0,59	0,67	0,75	0,91	1,07	1,22	1,38
200	0,38	0,46	0,54	0,62	0,70	0,77	0,85	1,01	1,17	1,32	1,48	1,79	2,10	2,41	2,72
400	0,74	0,89	1,05	1,21	1,36	1,52	1,67	1,98	2,29	2,59	2,90	3,51	4,11	4,72	5,32
500	0,91	1,11	1,30	1,49	1,69	1,88	2,07	2,46	2,84	3,22	3,60	4,35	5,10	5,85	6,59
600	1,09	1,32	1,55	1,78	2,01	2,24	2,47	2,93	3,38	3,84	4,29	5,18	6,07	6,97	7,84
800	1,43	1,74	2,04	2,35	2,65	2,95	3,26	3,86	4,46	5,05	5,64	6,81	7,97	9,14	10,28
1000	1,76	2,14	2,52	2,90	3,28	3,65	4,03	4,77	5,51	6,24	6,96	8,39	9,79	11,24	12,60
1200	2,09	2,55	3,00	3,45	3,89	4,34	4,78	5,66	6,53	7,39	8,24	9,91	11,53	13,24	14,80
1450	2,50	3,04	3,58	4,12	4,65	5,18	5,71	6,75	7,78	8,79	9,79	11,72	13,58	15,59	17,35
1800	3,05	3,71	4,37	5,03	5,68	6,32	6,96	8,21	9,44	10,64	11,81	14,05	16,14	18,54	20,45
2000	3,36	4,09	4,82	5,53	6,24	6,95	7,64	9,01	10,34	11,64	12,89	15,26	17,43	20,02	21,94
2500	4,10	4,99	5,88	6,74	7,60	8,44	9,27	10,88	12,43	13,91	15,30	17,84	19,98	22,94	24,62
2850	4,60	5,59	6,58	7,54	8,49	9,41	10,32	12,07	13,72	15,27	16,70	19,19	21,10	24,23	25,45
3000	4,80	5,94	6,87	7,87	8,85	9,81	10,75	12,54	14,23	15,79	17,22	19,64	21,39	24,56	25,52
3500	5,88	7,16	8,03	8,90	9,76	10,62	11,47	13,14	14,78	16,39	17,94	20,91	23,66	26,15	26,35
4000	7,07	8,16	9,15	10,13	11,10	12,06	13,01	14,88	16,69	18,45	20,14	23,29	26,11	27,55	-
4500	8,04	9,15	10,25	11,34	12,41	13,47	14,51	16,55	18,51	20,39	22,17	25,42	27,18	-	-
5000	8,91	10,12	11,33	12,52	13,68	14,83	15,96	18,14	20,22	22,18	24,02	27,05	-	-	-
6000	10,60	12,02	13,41	14,78	16,11	17,41	18,67	21,07	23,28	25,30	27,08	-	-	-	-

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Profile 14M, Performance Figures in kW/25 mm Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of small pulley / Effective Diameter mm														
	28	29	30	32	34	36	38	40	44	48	52	56	64	72	80
	124,78	129,23	133,69	142,60	151,51	160,43	169,34	178,25	196,08	213,90	231,73	249,55	285,21	320,86	356,51
10	0,12	0,13	0,14	0,16	0,18	0,20	0,22	0,24	0,27	0,32	0,34	0,36	0,41	0,46	0,50
20	0,24	0,25	0,27	0,32	0,36	0,41	0,46	0,50	0,55	0,59	0,68	0,73	0,82	0,91	1,00
40	0,50	0,55	0,59	0,64	0,73	0,82	0,91	0,96	1,10	1,19	1,32	1,42	1,64	1,83	2,05
60	0,73	0,78	0,87	1,00	1,10	1,23	1,37	1,46	1,64	1,83	2,01	2,15	2,47	2,74	3,06
100	1,23	1,32	1,42	1,64	1,87	2,15	2,28	2,42	2,74	3,01	3,29	3,56	4,11	4,61	5,11
200	2,47	2,65	2,88	3,29	3,74	4,25	4,61	4,89	5,43	6,03	6,62	7,17	8,17	9,18	10,23
300	3,33	3,61	3,93	4,52	5,11	5,80	6,26	6,62	7,40	8,17	8,90	9,68	11,23	12,83	14,52
400	4,15	4,52	4,84	5,57	6,35	7,17	7,72	8,17	9,09	10,05	10,96	11,83	13,70	15,62	17,58
500	4,89	5,30	5,71	6,57	7,44	8,40	9,09	9,60	10,64	11,69	12,74	13,74	15,89	17,99	20,18
600	5,57	6,03	6,53	7,49	8,49	9,54	10,27	10,87	12,01	13,20	14,34	15,48	17,81	20,09	22,47
700	6,21	6,72	7,23	8,29	9,41	10,57	11,35	12,01	13,23	14,52	15,75	16,96	19,40	21,75	24,29
800	6,85	7,35	7,94	9,09	10,32	11,60	12,47	13,15	14,47	15,84	17,17	18,45	21,00	23,56	26,12
1000	7,94	8,54	9,18	10,55	11,92	13,38	14,34	15,07	16,57	18,04	19,45	20,82	23,52	26,12	28,68
1200	8,90	9,59	10,32	11,78	13,29	14,89	15,94	16,76	18,31	19,86	21,32	22,69	25,39	27,90	30,27
1450	9,99	10,70	11,47	13,11	14,79	16,50	17,66	18,49	20,00	21,69	23,10	24,41	26,86	29,09	30,86
1600	10,55	11,32	12,15	13,84	15,57	17,35	18,54	19,36	20,96	22,51	23,88	25,11	27,40	29,18	30,55
2000	11,83	12,69	13,56	15,39	17,21	19,13	20,32	21,10	22,56	23,88	24,98	25,80	27,03	27,40	26,94
2400	13,74	14,16	14,61	16,44	18,36	20,27	21,37	22,00	23,15	24,00	24,57	24,75	24,25	-	-
2850	15,82	16,37	16,76	17,62	18,85	20,73	21,54	22,09	22,56	22,45	22,42	22,42	-	-	-
3000	16,65	17,12	17,54	18,40	19,02	20,82	21,60	21,83	22,10	22,33	22,46	22,19	-	-	-
3500	18,54	19,00	19,41	20,18	20,87	21,42	21,87	22,24	22,42	22,19	-	-	-	-	-
4000	20,18	20,59	20,91	21,60	22,05	22,33	22,47	22,42	22,19	-	-	-	-	-	-

The permissible performance figures for any timing belt width can be calculated by multiplying the figures in the table above with the respective width factors.

Width Factors 8M and 14 M

Belt Width	10	15	20	25	30*	30	40	50	65	85	100	115
Width Factor	0,35	0,56	0,77	1,0	1,14	1,21	1,46	2,1	2,76	3,66	4,32	4,98

* Only for profile 14M.

In this area of the table the service life might be shortened with increasing torque and a ratio close to 1 : 1. Please ask for more information.

Refers to cases where both circumstance come together. (shorter service life and no pulleys made from cast iron).

Speeds higher than 30 m/s.
Cast iron pulleys cannot be used here.

Standard Timing-Belt Drives (Inch Pitch)

Pitch MXL, Performance Figures in W for 1" Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of Small Pulley												
	16	18	20	22	24	28	30	32	36	40	42	44	48
	Effective Diameter mm												
	10,35	11,64	12,94	14,23	15,52	18,11	19,40	20,70	23,29	25,87	27,17	28,46	31,05
100	9	19	11	12	13	16	17	18	20	22	24	25	27
200	18	20	22	25	27	31	34	36	40	45	47	49	54
400	36	40	45	49	54	63	67	72	81	90	94	99	108
600	54	61	67	74	81	94	101	108	121	135	142	148	162
800	72	81	90	99	108	126	135	144	162	180	189	198	216
1000	90	101	112	124	135	157	169	180	202	225	236	247	270
1200	108	121	135	148	162	189	202	216	243	270	283	297	324
1400	126	142	157	173	189	220	236	252	283	315	331	346	378
1600	144	162	180	198	216	252	270	288	324	360	378	396	432
2000	180	202	225	247	270	315	337	360	405	450	472	495	540
2500	225	253	281	309	337	394	422	450	506	562	590	618	675
3000	270	305	335	370	405	472	505	540	605	675	710	740	810
4000	360	405	450	495	540	630	675	720	810	899	944	989	1079
6000	540	605	675	742	810	945	1015	1078	1215	1350	1415	1485	1620
8000	720	810	900	990	1080	1260	1350	1440	1620	1800	1890	1980	2160
12000	1080	1215	1350	1485	1620	1890	2025	2160	2430	2700	2835	2970	3240
16000	1440	1620	1800	1980	2160	2520	2700	2880	3240	3555	3660	3760	4015
20000	1800	2025	2250	2475	2700	3150	3375	3555	3810	4020	4110	4190	4320

Pitch XL, Performance Figures in kW for 1" Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of Small Pulley														
	10	12	14	16	18	20	22	24	28	30	32	36	40	44	48
	Effective Diameter mm														
	16,17	19,40	22,64	25,87	29,11	32,34	35,57	38,81	45,28	48,51	51,74	58,21	64,88	71,15	77,62
100	0,01	0,02	0,02	0,02	0,03	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07	0,07
200	0,03	0,04	0,04	0,05	0,05	0,06	0,07	0,07	0,08	0,09	0,10	0,11	0,13	0,13	0,14
400	0,06	0,07	0,08	0,10	0,10	0,12	0,13	0,14	0,17	0,18	0,19	0,22	0,24	0,26	0,28
600	0,09	0,10	0,13	0,14	0,16	0,18	0,20	0,21	0,25	0,27	0,29	0,33	0,37	0,40	0,44
800	0,12	0,14	0,17	0,19	0,22	0,24	0,26	0,29	0,34	0,36	0,39	0,44	0,49	0,54	0,58
1000	0,15	0,18	0,21	0,24	0,27	0,30	0,33	0,36	0,42	0,45	0,49	0,54	0,60	0,67	0,73
1200	0,18	0,21	0,25	0,29	0,32	0,36	0,40	0,43	0,50	0,54	0,58	0,65	0,73	0,80	0,87
1400	0,21	0,25	0,29	0,34	0,38	0,42	0,46	0,50	0,59	0,63	0,68	0,76	0,85	0,93	1,01
1600	0,24	0,29	0,34	0,39	0,43	0,48	0,53	0,58	0,67	0,72	0,77	0,87	0,96	1,06	1,15
2000	0,30	0,36	0,42	0,48	0,54	0,60	0,66	0,72	0,85	0,90	0,96	1,08	1,20	1,31	1,43
2400	0,36	0,43	0,50	0,58	0,65	0,72	0,79	0,87	1,01	1,08	1,15	1,29	1,43	1,56	1,69
2800	0,42	0,51	0,59	0,68	0,76	0,85	0,93	1,01	1,17	1,26	1,34	1,49	1,65	1,80	1,95
3200	0,48	0,58	0,67	0,77	0,87	0,96	1,05	1,15	1,33	1,43	1,51	1,69	1,86	2,03	2,19
3600	0,54	0,65	0,76	0,87	0,97	1,07	1,18	1,29	1,49	1,59	1,69	1,88	2,07	2,25	2,42
4000	0,60	0,72	0,85	0,96	1,07	1,20	1,31	1,43	1,64	1,75	1,86	2,07	2,27	2,45	2,63
4400	0,66	0,79	0,92	1,05	1,18	1,31	1,43	1,56	1,80	1,92	2,03	2,25	2,46	2,65	2,83
5000	0,75	0,90	1,04	1,20	1,34	1,48	1,62	1,77	2,02	2,15	2,27	2,50	2,72	2,92	3,10
6000	0,90	1,08	1,26	1,43	1,59	1,76	1,92	2,07	2,38	2,51	2,63	2,88	3,10	3,27	3,41

The permissible performance figures for any timing belt width can be calculated by multiplying the figures in the table above with the respective width factors.

Width Factors, Inch Pitch

Timing Belt Width	1/4"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"
Width Factor	0,22	0,28	0,35	0,42	0,57	0,71	0,86	1,00	1,29	1,56	1,84	2,14

In this area of the table the service life might be shortened with increasing torque and a ratio close to 1 : 1. Please ask for more information.

Speeds higher than 30 m/s.
Cast iron pulleys cannot be used here

Standard Timing-Belt Drives (Inch Pitch)

Pitch L, Performance Figures in kW for 1" Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of Small Pulley													
	10	12	14	16	18	20	22	26	30	32	36	40	44	48
	Effective Diameter mm													
	30,32	36,38	42,45	48,51	54,57	60,64	66,70	78,83	90,96	97,02	109,15	121,28	133,40	145,53
100	0,04	0,04	0,05	0,06	0,07	0,07	0,09	0,10	0,12	0,13	0,14	0,15	0,17	0,18
200	0,07	0,10	0,11	0,13	0,14	0,15	0,17	0,20	0,23	0,24	0,28	0,31	0,34	0,37
300	0,12	0,14	0,16	0,18	0,21	0,23	0,25	0,30	0,35	0,37	0,41	0,46	0,51	0,55
400	0,15	0,18	0,21	0,24	0,28	0,31	0,34	0,40	0,46	0,49	0,55	0,61	0,68	0,74
500	0,19	0,23	0,27	0,31	0,35	0,38	0,42	0,50	0,57	0,61	0,69	0,76	0,84	0,91
600	0,23	0,27	0,32	0,37	0,41	0,46	0,51	0,60	0,70	0,74	0,82	0,91	1,00	1,10
700	0,27	0,32	0,38	0,43	0,49	0,54	0,59	0,70	0,80	0,85	0,96	1,07	1,17	1,27
800	0,31	0,37	0,43	0,49	0,55	0,61	0,68	0,79	0,91	0,97	1,10	1,21	1,33	1,45
1000	0,38	0,46	0,54	0,61	0,69	0,76	0,84	0,99	1,14	1,21	1,36	1,51	1,65	1,79
1200	0,46	0,55	0,65	0,74	0,82	0,91	1,00	1,18	1,36	1,45	1,63	1,79	1,96	2,13
1400	0,54	0,64	0,75	0,85	0,96	1,07	1,17	1,38	1,58	1,68	1,88	2,07	2,27	2,46
1600	0,61	0,74	0,85	0,97	1,10	1,21	1,33	1,57	1,79	1,91	2,13	2,35	2,56	2,76
1800	0,69	0,82	0,96	1,10	1,23	1,36	1,49	1,75	2,01	2,13	2,38	2,61	2,84	3,06
2000	0,76	0,91	1,07	1,21	1,36	1,51	1,65	1,93	2,21	2,35	2,62	2,86	3,11	3,39
2400	0,92	1,10	1,27	1,45	1,63	1,79	1,96	2,29	2,62	2,76	3,07	3,34	3,60	3,83
2600	0,99	1,18	1,38	1,57	1,75	1,93	2,12	2,47	2,80	2,96	3,26	3,55	3,80	4,03
3000	1,15	1,36	1,58	1,79	2,01	2,21	2,42	2,80	3,16	3,34	3,65	3,93	4,18	4,37
3200	1,22	1,45	1,68	1,91	2,13	2,35	2,56	2,96	3,34	3,51	3,82	4,10	4,32	4,49
3600	1,37	1,63	1,86	2,13	2,38	2,61	2,84	3,27	3,65	3,83	4,13	4,38	4,54	4,64
4000	1,51	1,79	2,08	2,35	2,62	2,86	3,11	3,55	3,93	4,10	4,37	4,57	4,65	4,64
4600	1,74	2,05	2,37	2,67	2,95	3,22	3,48	3,93	4,28	4,42	4,60	4,67	4,58	4,33
5000	1,88	2,21	2,55	2,88	3,17	3,44	3,71	4,14	4,46	4,56	4,66	4,60	4,35	3,90

Pitch H, Performance Figures in kW for 1" Timing Belt Width

Speed of small pulley (min^{-1})	Teeth No. of Small Pulley													
	14	16	18	20	22	24	26	28	30	32	36	40	44	48
	Effective Diameter mm													
	56,60	64,68	76,81	80,85	88,94	97,02	105,11	113,19	121,28	129,36	145,53	161,70	177,87	194,04
100	0,18	0,21	0,24	0,25	0,29	0,31	0,34	0,37	0,39	0,42	0,47	0,52	0,57	0,63
200	0,37	0,42	0,47	0,52	0,57	0,63	0,68	0,73	0,78	0,83	0,93	1,04	1,15	1,25
300	0,54	0,63	0,71	0,78	0,86	0,93	1,01	1,10	1,17	1,25	1,40	1,56	1,71	1,87
400	0,73	0,83	0,93	1,04	1,15	1,25	1,35	1,46	1,56	1,66	1,87	2,07	2,28	2,49
500	0,91	1,04	1,17	1,30	1,43	1,56	1,69	1,82	1,95	2,07	2,33	2,59	2,85	3,10
600	1,10	1,25	1,40	1,56	1,71	1,87	2,02	2,18	2,33	2,48	2,79	3,10	3,41	3,71
700	1,27	1,46	1,64	1,82	2,00	2,18	2,37	2,54	2,72	2,90	3,26	3,61	3,97	4,32
800	1,46	1,66	1,87	2,07	2,28	2,49	2,69	2,90	3,10	3,31	3,71	4,12	4,52	4,92
900	1,64	1,87	2,10	2,33	2,57	2,79	3,02	3,26	3,49	3,71	4,17	4,63	5,07	5,51
1000	1,82	2,07	2,33	2,59	2,85	3,10	3,36	3,61	3,87	4,12	4,63	5,12	5,61	6,10
1100	2,00	2,28	2,57	2,85	3,13	3,41	3,69	3,97	4,24	4,52	5,07	5,61	6,15	6,68
1200	2,18	2,49	2,79	3,10	3,41	3,71	4,01	4,32	4,63	4,92	5,51	6,10	6,68	7,25
1400	2,55	2,90	3,26	3,61	3,96	4,32	4,67	5,02	5,37	5,72	6,39	7,06	7,71	8,35
1600	2,92	3,31	3,71	4,12	4,52	4,92	5,32	5,71	6,10	6,49	7,25	7,99	8,71	9,41
1800	3,29	3,71	4,17	4,62	5,07	5,51	5,96	6,39	6,82	7,25	8,08	8,89	9,67	10,43
2000	3,65	4,12	4,62	5,12	5,61	6,10	6,58	7,05	7,53	7,99	8,90	9,76	10,59	11,37
2400	4,38	4,92	5,51	6,10	6,68	7,24	7,81	8,36	8,89	9,41	10,43	11,37	12,25	13,06
2800	5,08	5,71	6,39	7,05	7,71	8,35	8,98	9,60	10,18	10,74	11,83	12,80	13,68	14,43
3200	5,79	6,49	7,24	7,98	8,71	9,40	10,09	10,76	11,37	11,96	13,07	14,01	14,81	15,43
3600	6,48	7,25	8,08	8,88	9,68	10,41	11,14	11,83	12,46	13,05	14,13	14,98	15,62	16,01
4000	7,15	7,99	8,89	9,74	10,59	11,35	12,10	12,82	13,43	14,00	15,00	15,67	16,05	16,10
4600	8,15	9,07	10,05	10,96	11,86	12,63	13,40	14,09	14,63	15,13	15,87	16,12	15,93	15,24

The permissible performance figures for any timing belt width can be calculated by multiplying the figures in the table above with the respective width factors.

Width Factors, Inch Pitch

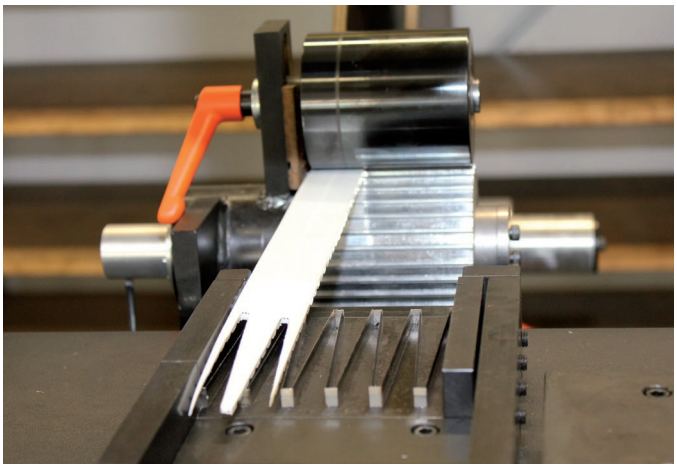
Timing Belt Width	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"
Width Factor	0,28	0,35	0,42	0,57	0,71	0,86	1,00	1,29	1,56	1,84	2,14

In this area of the table the service life might be shortened with increasing torque and a ratio close to 1 : 1. Please ask for more information.

Speeds higher than 30 m/s.
Cast iron pulleys cannot be used here.

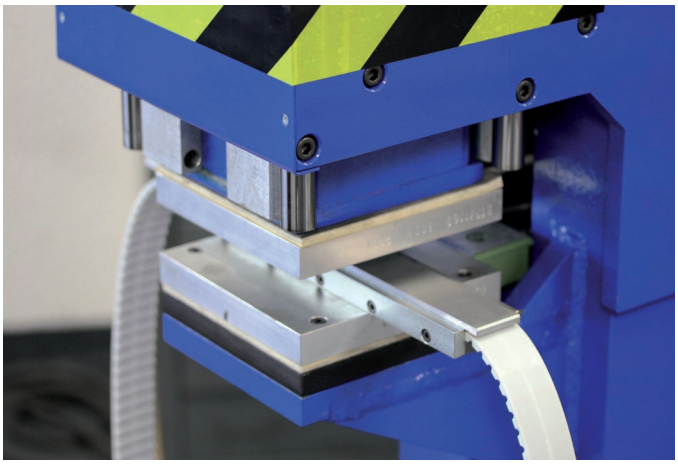
Timing Belts in Special Lengths:

- Open length belts from thermoplastic polyurethane (TPU) can get welded to endless belts of any number of teeth, beginning from pitch 5mm and width 10mm.
  Minimum length 400mm, depending on the belt profile and width.
- The welding is done directly in the timing belt stock of ***MÄDLER®***.
  Normally, the welded belts should be sent to the customer within 24 hours after receiving the order.
- From one-off pieces to large series at very short notice.



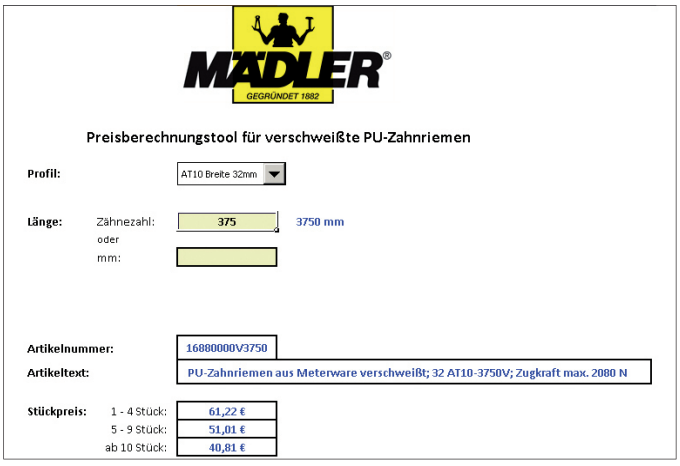
Cutting and Welding of Timing Belts:

- The ends get punched into the shape of fingers.
- The welding is done at high temperature. By this, the plastic melts and leads to a homogenous structure.
- After cooling down, the belt is ready to use and can be shiped immediately.
- The tensile members don´t get welded. So the tensile strength of a welded belt is approximate 50% of an endless extruded belt.
- Alternatively, belts in special lengths also can get endless extruded. Minimum lengths and minimum order quantities have to be considered. Price and delivery time on request.



Price Calculator on the Internet:

- Soon at www.maedler.de in the section ***MÄDLER®***-Tools.
- Quick overview about the profiles, widths and minimum lengths of weldable belts.
- After having selected a belt, you see the part number, product text and the prices for several quantities.



Other Special Belts (on request):

- V-belts and timing belts with tissue layer.
- Timing belts with teeth in V-formation.
- Self-tracking timing belts with central guide.
- Convoyer belts with texture or welded cams on the backside.
- Round belts and flat belts.