INTERNATIONAL STANDARD

ISO 17396

Second edition
2017-11

Synchronous belt drives — Metric pitch — Tooth profiles T and AT endless and open ended belts and pulleys

Transmissions synchrones par courroies — Pas métrique — Poulies et courroies dentées sans fin ou à bout libre à dents de profil T ou AT

Reference number
ISO 17396:2017(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 4, *Synchronous belt drives*.

This second edition cancels and replaces the first edition (ISO 17396:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

— root diameter specifications for AT series pulleys (Figure 6 and Table 12) have been added.

Synchronous belt drives — Metric pitch — Tooth profiles T and AT endless and open ended belts and pulleys

1 Scope

This document specifies the principal characteristics of synchronous endless and open belts and pulleys of the profile systems T and AT for use in synchronous belt drives for mechanical power transmission and where positive indexing or synchronization can be required.

NOTE Synchronous belt drives have been known by various titles in the past: for example, timing belt drives, positive belt drives, gear belt drives.

The principal belt and pulley characteristics include

a) nominal belt tooth dimensions,

b) belt tooth pitch spacing,

c) belt length and width dimensions,

d) belt length measurement specifications,

e) pulley groove dimensions and tolerances,

f) pulley diameter and width dimensions and tolerances, and

g) pulley quality specification.

The belts of the profile systems T and AT are made of polyurethane with high-tension fine steel cord tension members in most cases. As far as certain forces are given in this document, these values are only valid for these kinds of belt. For polyurethane belts with different tensile cords, i.e. aramid or rubber belts reinforced with glass fibre, the values can be different. It is intended that the user and the manufacturer agree about suitable values. Open belts made of thermoplastic polyurethane can be spliced to work as endless belts in conveyor applications. In this case, the tolerances are not valid for the splicing area of the endless spliced belt.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 254, *Belt drives — Pulleys — Quality, finish and balance*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Belt profile systems

Eight belt profiles for synchronous drives are standardized.

Profile system T:	Profile system AT:
— profile T2,5	— profile AT3
— profile T5	— profile AT5
— profile T10	— profile AT10
— profile T20	— profile AT20

5 Belt nomenclature

A belt is designated by a combination of numbers and letters as follows:

a) the width, in millimetres;

b) the profile system;

c) the pitch, in millimetres;

d) the belt pitch length, in millimetres (and add the number of teeth in brackets, if required);

e) double-sided belts are designated by adding D_G or D_T before the profile system letter: D_G if the tooth position is opposite **G**ap; D_T if the tooth position is opposite **T**ooth;

f) open belts are designated by adding the letter "M" behind the length; for spliced belts, use the letter "V."

EXAMPLE 1 A metric synchronous belt of 10 mm pitch, profile system T, 50 mm wide, and 1 400 mm in pitch length is designated as follows:

— for a single-sided belt: **50 - T10 - 1 400**;

— for a double-sided belt: **50 - D_G - T10 - 1 400** or **50 - D_T - T10 - 1 400**.

EXAMPLE 2 A metric synchronous belt of 5 mm pitch, profile system AT, 25 mm wide, and 500 mm in pitch length (number of teeth = 100) is designated as follows:

— for a single-sided belt: **25 - AT5 - 500 (100 t)**;

— for double-sided belt: **25 - D_G - AT5 - 500 (100 t)** or **25 - D_T - AT5 - 500 (100 t)**.

EXAMPLE 3 An open metric synchronous belt of 5 mm pitch, profile system AT, 25 mm wide, and 50 000 mm in pitch length is designated as

25 - AT5 - 50 000 - M.

6 Pulley profile systems

Eight pulley profiles for synchronous drives are standardized.

Profile system T:

— profile T2,5
— profile T5
— profile T10
— profile T20

Profile system AT:

— profile AT3
— profile AT5
— profile AT10
— profile AT20

7 Pulley nomenclature

A pulley for a synchronous drive is identified by the number of grooves, the groove pitch and profile, and the width. It is designated, as is the belt, by a combination of numbers and letters as follows:

a) the letter "P", which indicates a pulley;

b) the number of grooves;

c) the profile system;

d) the groove pitch, in millimetres;

e) the width, in millimetres.

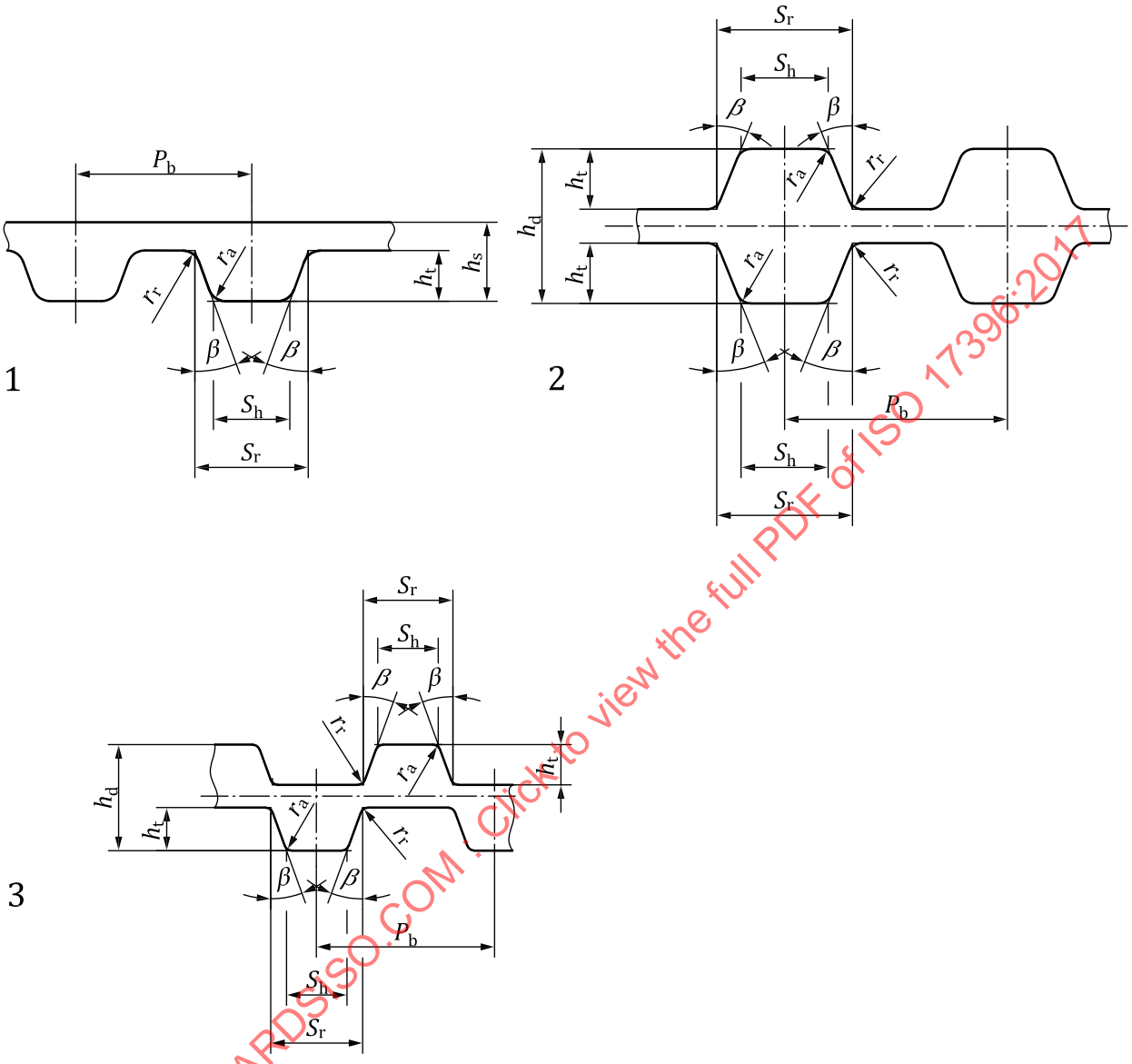
EXAMPLE A pulley for a metric toothed belt which has 20 mm pitch and 30 grooves with a nominal width of 50 mm is identified as follows:

— for T-profile system pulley: **P30 - T20 - 50**;

— for AT-profile system pulley: **P30 - AT20 - 50**.

8 Belt profile systems T and AT

8.1 Belt profile systems T and AT — General



Key

1 single-sided metric synchronous belt
2 symmetrical double-sided metric synchronous belt
3 asymmetric double sided metric synchronous belt

Figure 1 — Belt dimensions for profile systems T and AT

8.2 Profile system T — Belt tooth dimensions and tolerances

The nominal belt tooth dimensions are the same for single-sided and double-sided belts; they are given in Table 1 and shown in Figure 1.

Table 1 — Profile system T — Nominal tooth dimensions

Belt profile	Pitch	Tooth angle	Root width					
	P_b	2β	S_r	h_s	h_d	h_t	r_a min.	$r_r \pm 0,1$
	mm	degrees	mm	mm	mm	mm	mm	mm
T2,5	2,5	40 ± 2	1,50 ± 0,05	1,30 ± 0,15	1,90	0,70 ± 0,05	0,2	0,2
T5	5,0	40 ± 2	2,65 ± 0,05	2,20 ± 0,15	3,25	1,20 ± 0,05	0,4	0,4
T10	10,0	40 ± 2	5,30 ± 0,10	4,50 ± 0,30	6,80	2,50 ± 0,10	0,6	0,6
T20	20,0	40 ± 2	10,15 ± 0,15	8,00 ± 0,45	12,85	5,00 ± 0,15	0,8	0,8
NOTE The value of h_d can vary due to process-related adjustments of the manufacturer.								

8.3 Profile system AT — Belt tooth dimensions and tolerances

The nominal belt tooth dimensions are the same for single-sided and double-sided belts; they are given in Table 2 and shown in Figure 1.

Table 2 — Profile system AT — Nominal tooth dimensions

Belt profile	Pitch	Tooth angle	Head width					
	P_b	2β	S_h	h_s	h_d	h_t	r_a min.	$r_r \pm 0,1$
	mm	degrees	mm	mm	mm	mm	mm	mm
AT3	3,0	50 ± 2	1,50 ± 0,05	1,90 ± 0,15[a]	n.a.	1,10 ± 0,05	0,3	0,1
AT5	5,0	50 ± 2	2,50 ± 0,05	2,70 ± 0,15[a]	3,05	1,20 ± 0,05	0,4	0,6
AT10	10,0	50 ± 2	5,00 ± 0,10	4,50 ± 0,30[a] (5,0)	6,50	2,50 ± 0,10	0,6	1,2
AT20	20,0	50 ± 2	10,00 ± 0,15	8,00 ± 0,45[a] (9,0)	12,15	5,00 ± 0,15	1,6	2,5
NOTE The value of h_d can vary due to process-related adjustments of the manufacturer.								
[a] The thickness of the backside depends on the method of manufacturing.								

9 Belt widths and tolerances

Belt widths and tolerances are given in Table 3.

Table 3 — Belt widths and width tolerances

Dimensions in millimetres

Belt profile	Nominal belt width				Tolerance
T2,5	—	4	6	10	±0,3
T5	6	10	16	25	±0,5
T10	16	25	32	50	±0,5
T20	32	50	75	100	±1,0
AT3	6	10	16	25	±0,3
AT5	6	10	16	25	±0,5
AT10	16	25	32	50	±0,5
AT20	32	50	75	100	±1,0
NOTE Tolerances for larger belt widths and closer tolerances to be confirmed between the user and the manufacturer.					

10 Pitch length measurement

10.1 Endless belts manufactured in circular moulds

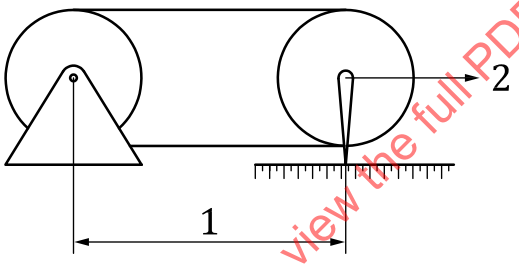
10.1.1 The pitch length of a synchronous belt shall be determined by placing the belt on a measuring fixture (see Figure 2) composed of the elements given in 10.1.2 to 10.1.4.

10.1.2 Two pulleys of equal diameter, as specified in Table 4, of the proper profile shown in Table 7. One pulley shall be free to rotate on a fixed-position shaft, while the other shall be free to rotate on a moveable shaft to permit the centre distance to change.

10.1.3 Means of applying a total measuring force to the moveable pulley, as given in Table 5.

10.1.4 Means of measuring the centre distance between the two pulleys with the necessary degree of accuracy for centre distance measurement.

NOTE The number of pulley teeth specified in Table 4 determines the recommended sizes for measuring the belt pitch length. Practicably, the other sizes of pulleys can be used provided they have the same number of teeth and meet the dimensional requirements of Table 4.



Key

1 centre distance

2 total measuring force

Figure 2 — Fixture for measuring the pitch length for endless belts manufactured in circular moulds

Table 4 — Belt length measuring pulleys

Dimensions in millimetres

Belt profile	Number of grooves	Pitch circumference	Outside diameter[a]	Radial runout	Axial runout
				FIM[a]	FIM[a]
T2,5	20	50	15,42 $_{-0,05}$	0,013	0,025
T5	20	100	30,99 $_{-0,05}$	0,013	0,025
T10	20	200	61,80 $_{-0,08}$	0,013	0,025
T20	20	400	124,47 $_{-0,08}$	0,013	0,050
AT3	20	60	18,69 $_{-0,05}$	0,013	0,025
AT5	20	100	30,61 $_{-0,05}$	0,013	0,025
AT10	24	240	74,57 $_{-0,08}$	0,013	0,025
AT20	25	500	156,33 $_{-0,08}$	0,013	0,050

[a] Full indicator movement.

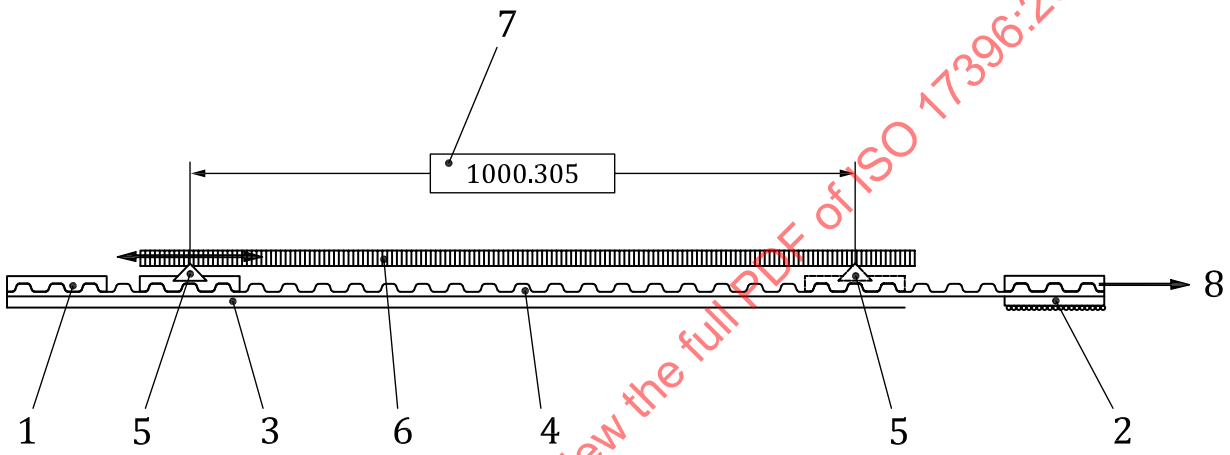
10.2 For very long endless belts and open belts

10.2.1 The pitch length of a synchronous belt shall be determined by placing the belt on a measuring fixture (see Figure 3) composed of the following elements given in 10.2.2 to 10.2.4.

10.2.2 Two identical toothed clamps, of the proper profile, covering three complete belt teeth in mesh, and having zero spacing tooth shape.

10.2.3 Means of applying a total measuring force to the moveable clamp, as given in Table 5.

10.2.4 Means of measuring the distance between the two clamps with the necessary degree of accuracy for distance measurement.



Key

1	fixed clamp	5	measuring plate
2	moveable clamp	6	scale
3	table	7	display
4	belt specimen	8	total measuring force

Figure 3 — Fixture for measuring pitch length of very long endless belts and open belts

10.3 Total measuring forces

The total measuring force that shall be applied for measuring belts is given in Table 5.

The given measuring forces are valid for the measurement according to 10.4.1; for 10.4.2, the measuring forces have to be bisected (50 % of given values). Forces for bigger belt width shall be confirmed between the user and the manufacturer.

Table 5 — Total measuring force

Forces in newton

Belt profile	Total measuring force N								
	Belt width mm								
	4	6	10	16	25	32	50	75	100
T2,5	6	10	20						
T5		20	40	60	90	(120)			
T10				90	140	170	270	(410)	(540)
T20					(270)	340	540	800	1 100
AT3		20	40	60	90				
AT5		25	50	80	120	(160)	(250)		
AT10			(110)	170	270	340	540	(800)	(1 100)
AT20					(650)	860	1 300	1 950	2 600

10.4 Procedures

10.4.1 For endless belts manufactured in circular moulds

In measuring the pitch length of a synchronous belt as illustrated in Figure 2, the belt should be rotated at least two revolutions to seat it properly and to divide the total force equally between the two lengths of the belt. The pitch length shall be calculated by adding the pitch circumference of one of the pulleys to twice the measured centre distance. Check double-sided belts on both tooth faces separately.

10.4.2 For very long endless belts and open belts

A single-sided belt specimen is fixed with the belt's flat side on a device as illustrated in Figure 3 and loaded with 50 % of the measuring force (see Table 5). The measuring plate of the device shall be brought into contact with the belts teeth and the measuring system shall be set to zero then. After that, the measuring plate shall be traversed as shown in Figure 3 to the right side and brought into contact with the belt again at a distance of 1 000 mm (or 1 002 mm in case of AT3) corresponding to the exact number of teeth (see NOTE below). The real distance is read from the display of the measuring system. This distance corresponds with the belt length. Double-sided belts shall be checked on both sides separately.

NOTE 1 000 mm equals

— 400 teeth for a pitch of 2,5 mm,

— 200 teeth for a pitch of 5 mm,

— 100 teeth for a pitch of 10 mm, and

— 50 teeth for a pitch of 20 mm.

1 002 mm equals 334 teeth for a pitch of 3 mm.

10.5 Belt length tolerances

The length tolerance for open belts is ±0,8 mm/m.

The length tolerances for endless manufactured belts are given in Tables 6 and 7.

The length tolerances given are only valid for belts with steel cord tension member. For other reinforcements, tolerances shall be confirmed between the manufacturer and the user.

Table 6 — Tolerances for profile system T and AT — Endless belts from circular moulds

Dimensions in millimetres

Endless belt length	Tolerance ±
up to 305	0,28
>305 up to 390	0,32
>390 up to 525	0,36
>525 up to 630	0,42
>630 up to 780	0,48
>780 up to 990	0,56
>990 up to 1 250	0,64
>1 250 up to 1 560	0,76
>1 560 up to 1 960	0,88
>1 960 up to 2 360	1,04
>2 360 up to 3 100	1,22
>3 100 up to 3 620	1,46
>3 620	Consult supplier

Table 7 — Tolerances for endless belts (not made from circular moulds)

Endless belt length mm		Tolerance ± (mm/m)
Above	Up to and including	
Below	2 120	Consult supplier
2 120	2 240	0,62
2 240	2 360	0,61
2 360	2 500	0,61
2 650	2 650	0,59
2 500	2 800	0,59
2 800	3 000	0,57
3 000	3 150	0,55
3 150	3 350	0,55
3 350	3 550	0,54
3 550	4 000	0,54
4 000	4 250	0,53
4 250	4 500	0,52
4 500	4 750	0,51
4 750	5 000	0,50
5 000	5 300	0,50
5 300	5 600	0,49
5 600	6 000	0,48
6 000	6 300	0,48
6 300	7 100	0,48

Table 7 *(continued)*

Endless belt length mm		Tolerance ± (mm/m)
Above	Up to and including	
7 100	8 000	0,47
8 000	9 000	0,46
Over 9 000		Consult supplier

11 Pulleys

11.1 General profile system T

11.1.1 General

The pulley is characterized by a trapezoidal groove profile. This groove profile is defined as the profile formed by the generating tool rack form required to machine-finish the trapezoidal profile. The profile is different for each pulley diameter, but can be closely approximated by a nominal groove profile over specified ranges of number of grooves.

Tolerances shall be in accordance with Annex A.

11.1.2 Profile system T — Pulley groove dimensions and tolerances

Dimensions and tolerances for the pulley grooves for T2,5, T5, T10 and T20 pulleys are given in Table 8 and shown in Figure 4.

For special applications, i.e. backlash free drives, the dimension b_r may be corrected to achieve this special property of the synchronous drive. In these cases, pulleys are called “0-backlash pulleys”.

Table 8 — Profile system T — Pulley groove profile dimensions and tolerances

Dimensions in millimetres

Pulley profile	Number of grooves	b_r	h_g min.	$2\Phi \pm 3°$	r_b max.	r_t
T2,5	Up to 20/SE	1,75 $^{+0,05}$	0,75 $^{+0,05}$	50	0,2	0,3 ± 0,05
	>20/N	1,83 $^{+0,05}$	1,00	50	0,2	0,3 ± 0,05
T5	Up to 20/SE	2,96 $^{+0,05}$	1,25 $^{+0,05}$	50	0,4	0,6 ± 0,05
	>20/N	3,32 $^{+0,05}$	1,95	50	0,4	0,6 ± 0,05
T10	Up to 20/SE	6,02 $^{+0,10}$	2,60 $^{+0,10}$	50	0,6	0,8 ± 0,10
	>20/N	6,57 $^{+0,10}$	3,40	50	0,6	0,8 ± 0,10
T20	Up to 20/SE	11,65 $^{+0,15}$	5,20 $^{+0,13}$	50	0,8	1,2 ± 0,10
	>20/N	12,60 $^{+0,15}$	6,00	50	0,8	1,2 ± 0,10

11.1.3 Profile system T — Pulley groove profile

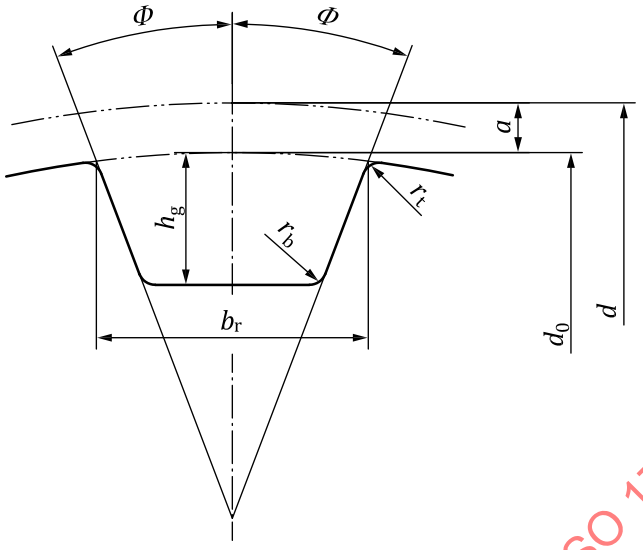


Figure 4 — Profile system T — Pulley groove profile

11.1.4 Profile system T — Pulley diameters

The pulley outside diameters for standard pulleys are given in Table 9. The relationship of the pulley outside and the pitch diameters is illustrated in Figure 4, value "*a*".

Table 9 — Profile system T — Standard pulley sizes

Dimensions in millimetres

Number of grooves	Pulley profile							
	T2,5		T5		T10		T20	
	Outside diameter d_0	Pitch diameter d	Outside diameter d_0	Pitch diameter d	Outside diameter d_0	Pitch diameter d	Outside diameter d_0	Pitch diameter d
10	7,46	7,96	15,08	15,92	29,97	31,83		
11	8,25	8,75	16,67	17,51	33,15	35,01		
12	9,05	9,55	18,26	19,10	36,34	38,20		
13	9,85	10,35	19,85	20,69	39,52	41,38		
14	10,64	11,14	21,44	22,28	42,70	44,56		
15	11,44	11,94	23,03	23,87	45,89	47,75	92,64	95,49
16	12,23	12,73	24,62	25,46	49,07	50,93	99,01	101,86
17	13,03	13,53	26,22	27,06	52,25	54,11	105,38	108,23
18	13,82	14,32	27,81	28,65	55,44	57,30	111,74	114,59
19	14,62	15,12	29,40	30,24	58,62	60,48	118,11	120,96
20	15,42	15,92	30,99	31,83	61,80	63,66	124,47	127,32
22	17,01	17,51	34,17	35,01	68,17	70,03	137,21	140,06
25	19,39	19,89	38,95	39,79	77,72	79,58	156,30	159,15
28	21,78	22,28	43,72	44,56	87,27	89,13	175,40	178,25
32	24,96	25,46	50,09	50,93	100,00	101,86	200,87	203,72
36	28,15	28,65	56,46	57,30	112,73	114,59	226,33	229,18

Table 9 *(continued)*

Number of grooves	Pulley profile							
	T2,5		T5		T10		T20	
	Outside diameter d_0	Pitch diameter d	Outside diameter d_0	Pitch diameter d	Outside diameter d_0	Pitch diameter d	Outside diameter d_0	Pitch diameter d
40	31,33	31,83	62,82	63,66	125,46	127,32	251,80	254,65
48	37,70	38,20	75,55	76,39	150,93	152,79	302,73	305,58
60	47,25	47,75	94,65	95,49	189,13	190,99	379,12	381,97
72	56,80	57,30	113,75	114,59	227,32	229,18	455,52	458,37
84	66,35	66,85	132,85	133,69	265,52	267,38	531,91	534,76
96	75,89	76,39	151,95	152,79	303,72	305,58	608,30	611,15

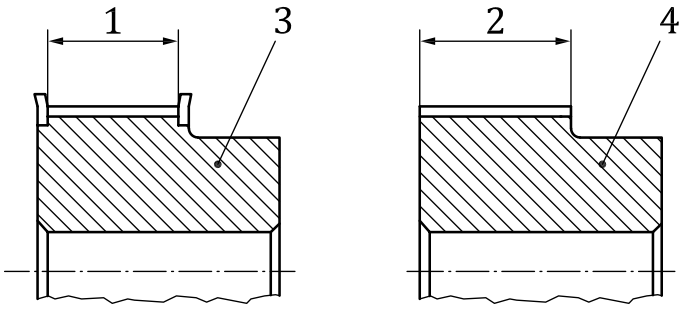
11.1.5 Profile system T — Pulley width

The standard nominal pulley width and the minimum actual pulley width required [b_f for flanged pulleys and b'_f for unflanged pulleys (see Figure 5)] are given in Table 10. Users are advised that the values given for b'_f apply also to pulleys with only one flange. The minimum unflanged pulley width may be reduced when the alignment of the drive can be controlled, but shall not be less than the minimum flanged pulley width. Widths other than standard widths may be available from specific manufacturers.

Table 10 — Standard pulley widths

Dimensions in millimetres

Pulley profile	Standard nominal belt width	Minimum pulley width	
		Flanged b_f min.	Unflanged b'_f min.
T2,5	4	5,5	8,0
	6	7,5	10,0
	10	11,5	14,0
T5	6	7,5	10,0
	10	11,5	14,0
	16	17,5	20,0
	25	26,5	29,0
T10	16	18,0	21,0
	25	27,0	30,0
	32	34,0	37,0
	50	52,0	55,0
T20	32	34,0	38,0
	50	52,0	56,0
	75	77,0	81,0
	100	102,0	106,0



Key

1 b_f
2 b'_f
3 flanged pulley
4 unflanged pulley

Figure 5 — Minimum pulley width

11.2 General profile system AT

11.2.1 General

The pulley is characterized by a trapezoidal groove profile. This groove profile is defined as the profile formed by the generating tool rack form required to machine-finish the trapezoidal profile. The profile is different for each pulley diameter, but can be closely approximated by a nominal groove profile over specified ranges of number of grooves.

Tolerances shall be in accordance with Annex A.

11.2.2 Profile system AT — Pulley groove profile dimensions and tolerances

Dimensions and tolerances for the pulley grooves for AT3, AT5, AT10 and AT20 pulleys are given in Table 11 and shown in Figure 6.

For special applications, i.e. backlash free drives, the dimension b_h may be corrected to achieve this special property of the synchronous drive.

Table 11 — Profile system AT — Pulley groove profile dimensions and tolerances

Dimensions in millimetres

Pulley profile	b_h	h_g	2Φ	r_b	r_t
AT3	1,65 $^{+0,05}$	1,0 $^{+0,05}$	50° ± 2°	0,25 −0,1	0,2 −0,05
AT5	2,7 $^{+0,05}$	1,1 $^{\pm 0,05}$	50° ± 3°	0,4 −0,2	0,7 −0,1
AT10	5,4 $^{+0,1}$	2,35 $^{\pm 0,05}$	50° ± 3°	0,5 −0,3	1,2 −0,2
AT20	10,8 $^{+0,15}$	4,65 $^{\pm 0,05}$	50° ± 3°	1,5 −0,2	2,5 −02

11.2.3 Profile system AT — Pulley groove profile

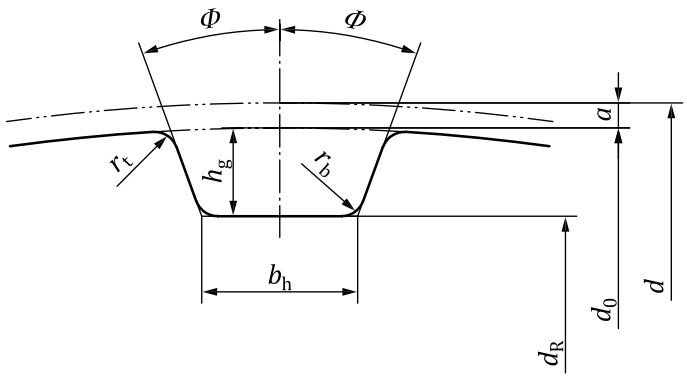


Figure 6 — Profile system AT — Pulley groove profile

11.2.4 Profile system AT — Pulley diameters

Pulley outside diameters for standard pulleys are given in Table 12. The relationship of the pulley outside and the pitch diameters is illustrated in Figure 6, value "*a*".

Table 12 — Profile system AT — Standard pulley sizes

Dimensions in millimetres

Number of grooves	Pulley profile											
	AT3			AT5			AT10			AT20		
	Out-side dia. d_0	Pitch dia. d	Root dia. d_R	Outside dia. d_0	Pitch dia. d	Root dia. d_R	Outside dia. d_0	Pitch dia. d	Root dia. d_R	Out-side dia. d_0	Pitch dia. d	Root dia. d_R
15	13,91	14,32	11,91	22,65	23,87	20,45	45,93	47,75	41,23			
16	14,87	15,28	12,87	24,24	25,46	22,04	49,11	50,93	44,41			
17	15,82	16,23	13,82	25,84	27,06	23,64	52,29	54,11	47,59			
18	16,78	17,19	14,78	27,43	28,65	25,23	55,48	57,30	50,78	111,77	114,59	102,47
19	17,73	18,14	15,73	29,02	30,24	26,82	58,66	60,48	53,96	118,14	120,96	108,84
20	18,69	19,10	16,69	30,61	31,83	28,41	61,84	63,66	57,14	124,50	127,32	115,20
22	20,60	21,01	18,60	33,79	35,01	31,59	68,21	70,03	63,51	137,24	140,06	127,94
25	23,46	23,87	21,46	38,57	39,79	36,37	77,76	79,58	73,06	156,33	159,15	147,03
28	26,33	26,74	24,33	43,34	44,56	41,14	87,31	89,13	82,61	175,43	178,25	166,13
32	30,15	30,56	28,15	49,71	50,93	47,51	100,04	101,86	95,34	200,90	203,72	191,60
36	33,97	34,38	31,97	56,08	57,30	53,88	112,77	114,59	108,07	226,36	229,18	217,06
40	37,79	38,20	35,79	62,44	63,66	60,24	125,50	127,32	120,80	251,83	254,65	242,53
48	45,43	45,84	43,43	75,17	76,39	72,97	150,97	152,79	146,27	302,76	305,58	293,46
60	56,89	57,30	54,89	94,27	95,49	92,07	189,17	190,99	184,47	379,15	381,97	369,85
72	68,34	68,75	66,34	113,37	114,59	111,17	227,36	229,18	222,66	455,55	458,37	446,25
84	79,80	80,21	77,80	132,47	133,69	130,27	265,56	267,38	260,86	531,94	534,76	522,64
96	91,26	91,67	89,26	151,57	152,79	149,37	303,76	305,58	299,06	608,33	611,15	599,03

11.2.5 Pulley system AT — Pulley width

The standard nominal pulley width and the minimum actual pulley width required [b_f for flanged pulleys and b'_f for unflanged pulleys (see Figure 5)] are given in Table 13. Users are advised that the values given for b'_f apply also to pulleys with only one flange. The minimum unflanged pulley width may

be reduced when the alignment of the drive can be controlled, but shall not be less than the minimum flanged pulley width. Widths other than standard widths may be available from specific manufacturers.

Table 13 — Standard pulley widths

Dimensions in millimetres

Pulley profile	Standard nominal belt width	Minimum pulley width	
		Flanged b_f min.	Unflanged b'_f min.
AT3	6	7,5	10,0
	10	11,5	14,0
	16	17,5	20,0
	25	26,5	29,0
AT5	6	7,5	10,0
	10	11,5	14,0
	16	17,5	20,0
	25	26,5	29,0
AT10	16	18,0	21,0
	25	27,0	30,0
	32	34,0	37,0
	50	52,0	55,0
AT20	32	34,0	38,0
	50	52,0	56,0
	75	77,0	81,0
	100	102,0	106,0